

## Safety Data Sheet

According to OSHA Hazard Communication Standard, 29 CFR 1910.1200

Initial preparation date: 10.10.2017

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### Aluminum Potassium Sulfate, Dodecahydrate

#### SECTION 1: Identification

**Product identifier**

**Product name:** Aluminum Potassium Sulfate, Dodecahydrate

**Product code:** KEMAL6000-400G

**Recommended use of the product and restriction on use**

**Relevant identified uses:** Not determined or not applicable.

**Uses advised against:** Not determined or not applicable.

**Reasons why uses advised against:** Not determined or not applicable.

**Manufacturer or supplier details**

**Manufacturer:**

**Supplier:**

AquaPhoenix Scientific  
860 Gitts Run Road  
Hanover  
PA 17331  
(717) 632-1291

AquaPhoenix Scientific Inc.  
860 Gitts Run Road  
Hanover  
PA 17331  
(717) 632-1291

**Emergency telephone number:**

**United States**

Emergency Telephone No.: 800-255-3924

#### SECTION 2: Hazard(s) identification

**GHS classification:** Not a hazardous substance or mixture

**Label elements**

**Hazard pictograms:** None

**Signal word:** None

**Hazard statements:** None

**Precautionary statements:** None

**Hazards not otherwise classified:** None

#### SECTION 3: Composition/information on ingredients

Identification	Name	Weight %
CAS number: 7784-24-9	Aluminum Potassium Sulfate	100

**Additional Information:** None

#### SECTION 4: First aid measures

**Description of first aid measures**

**General notes:**

Not determined or not applicable.

**After inhalation:**

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Loosen clothing as necessary and position individual in a comfortable position  
Maintain an unobstructed airway

**After skin contact:**

Rinse affected area with soap and water  
If symptoms develop or persist, seek medical attention

**After eye contact:**

Rinse/flush exposed eye(s) gently using water for 15-20 minutes  
If symptoms develop or persist, seek medical attention

**After swallowing:**

Rinse mouth thoroughly  
Seek medical attention if irritation, discomfort, or vomiting persists

**Most important symptoms and effects, both acute and delayed**

**Acute symptoms and effects:**

Not determined or not applicable.

**Delayed symptoms and effects:**

Not determined or not applicable.

**Immediate medical attention and special treatment**

**Specific treatment:**

Not determined or not applicable.

**Notes for the doctor:**

Not determined or not applicable.

### SECTION 5: Firefighting measures

**Extinguishing media**

**Suitable extinguishing media:**

Use appropriate fire suppression agents for adjacent combustible materials or sources of ignition

**Unsuitable extinguishing media:**

Not determined or not applicable.

**Specific hazards during fire-fighting:**

Thermal decomposition can lead to release of irritating gases and vapors

**Special protective equipment for firefighters:**

Wear protective eye wear, gloves and clothing  
Refer to Section 8

**Special precautions:**

Avoid inhaling gases, fumes, dust, mist, vapor and aerosols  
Avoid contact with skin, eyes and clothing

### SECTION 6: Accidental release measures

**Personal precautions, protective equipment and emergency procedures:**

Ensure adequate ventilation  
Ensure air handling systems are operational  
Wear protective eye wear, gloves and clothing

**Environmental precautions:**

Should not be released into the environment  
Prevent from reaching drains, sewer or waterway

**Methods and material for containment and cleaning up:**

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Wear protective eye wear, gloves and clothing

### Reference to other sections:

Not determined or not applicable.

## SECTION 7: Handling and storage

### Precautions for safe handling:

Do not eat, drink, smoke or use personal products when handling chemical substances.  
Avoid breathing mist or vapor.

### Conditions for safe storage, including any incompatibilities:

Store in a cool, well-ventilated area.

## SECTION 8: Exposure controls/personal protection

Only those substances with limit values have been included below.

### Occupational Exposure limit values:

Country (Legal Basis)	Substance	Identifier	Permissible concentration
ACGIH	Aluminum Potassium Sulfate	7784-24-9	ACGIH TWA 2 mg/m <sup>3</sup>

### Biological limit values:

No biological exposure limits noted for the ingredient(s).

### Information on monitoring procedures:

Not determined or not applicable.

### Appropriate engineering controls:

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use or handling.

### Personal protection equipment

#### Eye and face protection:

Safety goggles or glasses, or appropriate eye protection.

#### Skin and body protection:

Select glove material impermeable and resistant to the substance.

#### Respiratory protection:

When necessary, use NIOSH-approved breathing equipment.

### General hygienic measures:

Wash hands before breaks and at the end of work.  
Avoid contact with skin, eyes and clothing.

## SECTION 9: Physical and chemical properties

### Information on basic physical and chemical properties

Appearance	White powder
Odor	Odorless
Odor threshold	Not determined or not available.
pH	3.3 (0.2M Solution)
Melting point/freezing point	92.°C
Initial boiling point/range	Not determined or not available.
Flash point (closed cup)	Not applicable.
Evaporation rate	Not determined or not available.

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<b>Flammability (solid, gas)</b>	Not determined or not available.
<b>Upper flammability/explosive limit</b>	Not determined or not available.
<b>Lower flammability/explosive limit</b>	Not determined or not available.
<b>Vapor pressure</b>	Not determined or not available.
<b>Vapor density</b>	16,4
<b>Density</b>	Not determined or not available.
<b>Relative density</b>	1,757
<b>Solubilities</b>	Partially soluble.
<b>Partition coefficient (n-octanol/water)</b>	Not determined or not available.
<b>Auto/Self-ignition temperature</b>	Not determined or not available.
<b>Decomposition temperature</b>	Not determined or not available.
<b>Dynamic viscosity</b>	Not determined or not available.
<b>Kinematic viscosity</b>	Not determined or not available.
<b>Explosive properties</b>	Not determined or not available.
<b>Oxidizing properties</b>	Not determined or not available.

### Other information

<b>Molecular Weight</b>	474,39
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## SECTION 10: Stability and reactivity

### Reactivity:

Does not react under normal conditions of use and storage.

### Chemical stability:

Stable under normal conditions of use and storage.

### Possibility of hazardous reactions:

None under normal conditions of use and storage.

### Conditions to avoid:

Incompatibles, excess heat.

### Incompatible materials:

Strong oxidizing agents, steel, aluminum, copper, zinc.

### Hazardous decomposition products:

None known.

## SECTION 11: Toxicological information

### Acute toxicity

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

### Skin corrosion/irritation

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

### Serious eye damage/irritation

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

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#### Respiratory or skin sensitization

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

#### Carcinogenicity

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

**International Agency for Research on Cancer (IARC):** None of the ingredients are listed.

**National Toxicology Program (NTP):** None of the ingredients are listed.

#### Germ cell mutagenicity

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

#### Reproductive toxicity

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

#### Specific target organ toxicity (single exposure)

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

#### Specific target organ toxicity (repeated exposure)

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

#### Aspiration toxicity

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

**Information on likely routes of exposure:** No data available.

**Symptoms related to the physical, chemical and toxicological characteristics:** No data available.

**Other information:** No data available.

### SECTION 12: Ecological information

#### Acute (short-term) toxicity

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

#### Chronic (long-term) toxicity

**Product data:** No data available.

**Substance data:** No data available.

#### Persistence and degradability

**Product data:** No data available.

**Substance data:** No data available.

#### Bioaccumulative potential

**Product data:** No data available.

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**Substance data:** No data available.

### Mobility in soil

**Product data:** No data available.

**Substance data:** No data available.

**Other adverse effects:** No data available.

## SECTION 13: Disposal considerations

### Disposal methods:

It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11)

## SECTION 14: Transport information

### United States Transportation of dangerous goods (49 CFR DOT)

UN number	Not regulated
UN proper shipping name	Not regulated
UN transport hazard class(es)	None
Packing group	None
Environmental hazards	None
Special precautions for user	None

### International Maritime Dangerous Goods (IMDG)

UN number	Not regulated
UN proper shipping name	Not regulated
UN transport hazard class(es)	None
Packing group	None
Environmental hazards	None
Special precautions for user	None

### International Air Transport Association Dangerous Goods Regulations (IATA-DGR)

UN number	Not regulated
UN proper shipping name	Not regulated
UN transport hazard class(es)	None
Packing group	None
Environmental hazards	None
Special precautions for user	None

## SECTION 15: Regulatory information

### United States regulations

#### Inventory listing (TSCA):

7784-24-9	Aluminum Potassium Sulfate	Not Listed
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**Significant New Use Rule (TSCA Section 5):** Not determined.

**Export notification under TSCA Section 12(b):** Not determined.

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### SARA Section 311/312 hazards:

Acute	Chronic	Fire	Pressure	Reactive
No	No	No	No	No

**SARA Section 302 extremely hazardous substances:** Not determined.

### SARA Section 313 toxic chemicals:

7784-24-9	Aluminum Potassium Sulfate Dodecahydrate	Not Listed
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**CERCLA:** Not determined.

**RCRA:** Not determined.

**Section 112(r) of the Clean Air Act (CAA):** Not determined.

### Massachusetts Right to Know:

7784-24-9	Aluminum Potassium Sulfate Dodecahydrate	Not Listed
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### New Jersey Right to Know:

7784-24-9	Aluminum Potassium Sulfate Dodecahydrate	Not Listed
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### New York Right to Know:

7784-24-9	Aluminum Potassium Sulfate Dodecahydrate	Not Listed
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### Pennsylvania Right to Know:

7784-24-9	Aluminum Potassium Sulfate Dodecahydrate	Listed
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**California Proposition 65:** None of the ingredients are listed.

## SECTION 16: Other information

**Abbreviations and Acronyms:** None

### Disclaimer:

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations. The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations applicable to this material.

**NFPA:** 1-0-0

**HMIS:** 1-0-0

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**End of Safety Data Sheet**

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## 1 Identification

- **Product identifier**
- **Trade name: Bromothymol Blue**
- **Product code:** KEMBB5025-A
- **Recommended use and restriction on use**
- **Recommended use:** Laboratory chemicals
- **Restrictions on use:** No relevant information available.
- **Details of the supplier of the Safety Data Sheet**
- **Manufacturer/Supplier:**  
AquaPhoenix Scientific, Inc.  
860 Gitts Run Road  
Hanover, PA 17331  
Phone: (717)632-1291  
Toll-Free: (866)632-1291  
info@aquaphoenixsci.com
- **Distributor:**  
AquaPhoenix Scientific, Inc.  
860 Gitts Run Road  
Hanover, PA 17331  
(717) 632-1291
- **Emergency telephone number:**  
ChemTel Inc.  
(800)255-3924 (North America)  
+1 (813)248-0585 (International)

## 2 Hazard(s) identification

- **Classification of the substance or mixture**  
The product is not classified as hazardous according to the Globally Harmonized System (GHS).
- **Label elements**
- **GHS label elements** Not regulated.
- **Hazard pictograms:** None.
- **Signal word:** None
- **Hazard statements:** None.
- **Precautionary statements:** None.
- **Other hazards** There are no other hazards not otherwise classified that have been identified.

## 3 Composition/information on ingredients

- **Chemical characterization: Mixtures**

- **Components:**

7732-18-5	Water	>90%
34722-90-2	Sodium $\alpha$ -(3-bromo-5-isopropyl-4-oxo-2-methyl-2,5-cyclohexadienylidene)-2-(3-bromo-4-hydroxy-5-isopropyl-2-methylphenyl)toluenesulphonate	5-10%

- **Additional information:**

For the listed ingredient(s), the identity and/or exact percentage(s) are being withheld as a trade secret.  
For the wording of the listed Hazard Statements, refer to section 16.

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## 4 First-aid measures

- **Description of first aid measures**
- **General information:** No special measures required.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:**  
Wash with soap and water.  
If skin irritation is experienced, consult a doctor.
- **After eye contact:**  
Protect unharmed eye.  
Remove contact lenses if worn.  
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:**  
Rinse out mouth and then drink plenty of water.  
Do not induce vomiting; immediately call for medical help.
- **Most important symptoms and effects, both acute and delayed:**  
Gastric or intestinal disorders when ingested.  
Nausea in case of ingestion.
- **Danger:** No relevant information available.
- **Indication of any immediate medical attention and special treatment needed:**  
If medical advice is needed, have product container or label at hand.

## 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **For safety reasons unsuitable extinguishing agents:** No relevant information available.
- **Special hazards arising from the substance or mixture**  
Formation of toxic gases is possible during heating or in case of fire.
- **Advice for firefighters**
- **Protective equipment:**  
Wear self-contained respiratory protective device.  
Wear fully protective suit.

## 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Ensure adequate ventilation.
- **Environmental precautions**  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **Methods and material for containment and cleaning up**  
Dispose of the collected material according to regulations.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

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Trade name: Bromothymol Blue

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## 7 Handling and storage

- **Handling**
- **Precautions for safe handling:**
  - Prevent formation of aerosols.
  - Use only in well ventilated areas.
  - Avoid splashes or spray in enclosed areas.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Requirements to be met by storerooms and receptacles:**
  - Due to photo-sensitivity, store product in brown-glass receptacles.
  - Store in cool, dry conditions in well sealed receptacles.
- **Information about storage in one common storage facility:**
  - Store away from foodstuffs.
  - Store away from caustic solutions.
- **Further information about storage conditions:**
  - Keep containers tightly sealed.
  - Protect from sunlight.
- **Specific end use(s)** No relevant information available.

## 8 Exposure controls/personal protection

- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**
  - The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Exposure controls**
- **General protective and hygienic measures:**
  - The usual precautionary measures for handling chemicals should be followed.
  - Keep away from foodstuffs, beverages and feed.
- **Engineering controls:** Provide adequate ventilation.
- **Breathing equipment:** Not required under normal conditions of use.
- **Protection of hands:**



Protective gloves

- **Material of gloves**
  - Butyl rubber, BR
  - Nitrile rubber, NBR
- **Penetration time of glove material**
  - The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:**



Safety glasses

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- Follow relevant national guidelines concerning the use of protective eyewear.
- **Body protection:** Protective work clothing
- **Limitation and supervision of exposure into the environment** No special requirements.
- **Risk management measures** No special requirements.

## 9 Physical and chemical properties

### · Information on basic physical and chemical properties

#### · Appearance:

· **Form:** Liquid  
 · **Color:** Dark green

· **Odor:** Odorless  
 · **Odor threshold:** Not determined.

· **pH-value:** Not determined.  
 · **Melting point/Melting range:** Not determined.  
 · **Boiling point/Boiling range:** 105-110 °C (221-230 °F)

· **Flash point:** The product is not flammable.

· **Flammability (solid, gaseous):** Not applicable.

· **Auto-ignition temperature:** Not determined.

· **Decomposition temperature:** Not determined.

· **Danger of explosion:** Product does not present an explosion hazard.

#### · Explosion limits

· **Lower:** Not determined.  
 · **Upper:** Not determined.

· **Oxidizing properties:** Not determined.

· **Vapor pressure at 20 °C (68 °F):** 23 hPa (17.3 mm Hg)

#### · Density:

· **Relative density:** Not determined.  
 · **Vapor density:** Not determined.  
 · **Evaporation rate:** Not determined.

#### · Solubility in / Miscibility with

· **Water:** Not determined.

· **Partition coefficient (n-octanol/water):** Not determined.

#### · Viscosity

· **Dynamic:** Not determined.  
 · **Kinematic:** Not determined.

· **Other information** No relevant information available.

## 10 Stability and reactivity

- **Reactivity:** No relevant information available.

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- **Chemical stability:** Stable under normal temperatures and pressures.
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used and stored according to specifications.
- **Possibility of hazardous reactions**  
Toxic fumes may be released if heated above the decomposition point.
- **Conditions to avoid**  
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
Direct sunlight.
- **Incompatible materials** No relevant information available.
- **Hazardous decomposition products**  
Under fire conditions only:  
Sulfur oxides (SOx)  
Sulfur dioxide  
Bromine compounds

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **LD/LC50 values that are relevant for classification:** None.
- **Primary irritant effect:**
- **On the skin:** Based on available data, the classification criteria are not met.
- **On the eye:** Based on available data, the classification criteria are not met.
- **Sensitization:** Based on available data, the classification criteria are not met.

### · IARC (International Agency for Research on Cancer):

None of the ingredients are listed.

### · NTP (National Toxicology Program):

None of the ingredients are listed.

### · OSHA-Ca (Occupational Safety & Health Administration):

None of the ingredients are listed.

### · Probable route(s) of exposure:

Ingestion.  
Inhalation.  
Eye contact.  
Skin contact.

- **Acute effects (acute toxicity, irritation and corrosivity):** No relevant information available.
- **Repeated dose toxicity:** No relevant information available.
- **Germ cell mutagenicity:** Based on available data, the classification criteria are not met.
- **Carcinogenicity:** Based on available data, the classification criteria are not met.
- **Reproductive toxicity:** Based on available data, the classification criteria are not met.
- **STOT-single exposure:** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure:** Based on available data, the classification criteria are not met.
- **Aspiration hazard:** Based on available data, the classification criteria are not met.

## 12 Ecological information

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- **Toxicity**
- **Aquatic toxicity** No relevant information available.
- **Persistence and degradability** No relevant information available.
- **Bioaccumulative potential:** No relevant information available.
- **Mobility in soil:** No relevant information available.
- **Additional ecological information**
- **General notes:**  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **Other adverse effects** No relevant information available.

## 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system. The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes.
- **Uncleaned packagings**
- **Recommendation:** Disposal must be made according to official regulations.

## 14 Transport information

- |  |                 |
|--|-----------------|
| · <b>UN-Number</b>   |                 |
| · DOT, ADR/RID/ADN, IMDG, IATA   | Not regulated.  |
| · <b>UN proper shipping name</b>   |                 |
| · DOT, ADR/RID/ADN, IMDG, IATA   | Not regulated.  |
| · <b>Transport hazard class(es)</b>  |                 |
| · DOT, ADR/RID/ADN, IMDG, IATA   |                 |
| · <b>Class</b>   | Not regulated.  |
| · <b>Packing group</b>   |                 |
| · DOT, ADR/RID/ADN, IMDG, IATA   | Not regulated.  |
| · <b>Environmental hazards</b>   | Not applicable. |
| · <b>Special precautions for user</b>  | Not applicable. |
| · <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b> | Not applicable. |

## 15 Regulatory information

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· **Safety, health and environmental regulations/legislation specific for the substance or mixture**

· **United States (USA)**

· **SARA**

· **Section 302 (extremely hazardous substances):**

None of the ingredients are listed.

· **Section 355 (extremely hazardous substances):**

None of the ingredients are listed.

· **Section 313 (Specific toxic chemical listings):**

None of the ingredients are listed.

· **TSCA (Toxic Substances Control Act)**

34722-90-2	Sodium $\alpha$ -(3-bromo-5-isopropyl-4-oxo-2-methyl-2,5-cyclohexadienylidene)-2-(3-bromo-4-hydroxy-5-isopropyl-2-methylphenyl)toluenesulphonate
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7732-18-5	Water
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· **Proposition 65 (California)**

· **Chemicals known to cause cancer:**

None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity for females:**

None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity for males:**

None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients are listed.

· **EPA (Environmental Protection Agency):**

None of the ingredients are listed.

· **IARC (International Agency for Research on Cancer):**

None of the ingredients are listed.

· **Canadian Domestic Substances List (DSL):**

None of the ingredients are listed.

## 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Abbreviations and acronyms:**

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

OSHA: Occupational Safety & Health Administration

· **Sources**

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Website, European Chemicals Agency ([echa.europa.eu](http://echa.europa.eu))

Website, US EPA Substance Registry Services ([ofmpub.epa.gov/sor-internet/registry/substreg/home/overview/home.do](http://ofmpub.epa.gov/sor-internet/registry/substreg/home/overview/home.do))

Website, Chemical Abstracts Registry, American Chemical Society ([www.cas.org](http://www.cas.org))

Patty's Industrial Hygiene, 6th ed., Rose, Vernon, ed. ISBN: 978-0-470-07488-6

Casarett and Doull's Toxicology: The Basic Science of Poisons, 8th Ed., Klaasen, Curtis D., ed., ISBN: 978-0-07-176923-5.

Safety Data Sheets, Individual Manufacturers

SDS Prepared by:

ChemTel Inc.

1305 North Florida Avenue

Tampa, Florida USA 33602-2902

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# Safety Data Sheet

According to OSHA Hazard Communication Standard, 29 CFR 1910.1200

Initial preparation date: 11.20.2017

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## Cobalt (II) Chloride, Hexahydrate

### SECTION 1: Identification

#### Product identifier

**Product name:** Cobalt (II) Chloride, Hexahydrate

**Product code:** KEMCC1625-25G

#### Recommended use of the product and restriction on use

**Relevant identified uses:** Not determined or not applicable.

**Uses advised against:** Not determined or not applicable.

**Reasons why uses advised against:** Not determined or not applicable.

#### Manufacturer or supplier details

##### Manufacturer:

##### Supplier:

AquaPhoenix Scientific  
860 Gitts Run Road  
Hanover  
PA 17331  
(717) 632-1291

AquaPhoenix Scientific Inc.  
860 Gitts Run Road  
Hanover  
PA 17331  
(717) 632-1291

#### Emergency telephone number:

##### United States

Emergency Telephone No.: 800-255-3924

### SECTION 2: Hazard(s) identification

#### GHS classification:

Acute toxicity (oral), category 4

Skin sensitization, category 1

Respiratory sensitization, category 1

Germ cell mutagenicity, category 2

Carcinogenicity, category 1B

Reproductive toxicity, category 1B

Acute aquatic hazard, category 1

Chronic aquatic hazard, category 1

#### Label elements

##### Hazard pictograms:



**Signal word:** Danger

#### Hazard statements:

H302 Harmful if swallowed

H317 May cause an allergic skin reaction

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled

H341 Suspected of causing genetic defects

H350 May cause cancer

H360 May damage fertility or the unborn child



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## Cobalt (II) Chloride, Hexahydrate

H400 Very toxic to aquatic life  
H410 Very toxic to aquatic life with long lasting effects

### Precautionary statements:

P264 Wash skin thoroughly after handling  
P270 Do not eat, drink or smoke when using this product  
P261 Avoid breathing dust/fume/gas/mist/vapors/spray  
P272 Contaminated work clothing should not be allowed out of the workplace  
P280 Wear protective gloves/protective clothing/eye protection/face protection  
P285 In case of inadequate ventilation wear respiratory protection  
P201 Obtain special instructions before use  
P202 Do not handle until all safety precautions have been read and understood  
P273 Avoid release to the environment  
P301+P330+P312 IF SWALLOWED: Rinse mouth. Call a POISON CENTER or doctor/physician if you feel unwell.  
P321 Specific treatment (see supplemental first aid instructions on this label).  
P363 Wash contaminated clothing before reuse  
P302+P352 If on skin: Wash with soap and water  
P333+P313 If skin irritation or a rash occurs: Get medical advice/attention  
P304+P341 If inhaled: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing  
P308+P313 If exposed or concerned: Get medical advice/attention  
P391 Collect spillage  
P405 Store locked up  
P501 Dispose of contents and container as instructed in Section 13

**Hazards not otherwise classified:** None

## SECTION 3: Composition/information on ingredients

Identification	Name	Weight %
CAS number: 7791-13-1	Cobalt dichloride hexahydrate	100

**Additional Information:** None

## SECTION 4: First aid measures

### Description of first aid measures

#### General notes:

Not determined or not applicable.

#### After inhalation:

Loosen clothing as necessary and position individual in a comfortable position  
Maintain an unobstructed airway

#### After skin contact:

Rinse affected area with soap and water  
If symptoms develop or persist, seek medical attention

#### After eye contact:

Rinse/flush exposed eye(s) gently using water for 15-20 minutes  
If symptoms develop or persist, seek medical attention

#### After swallowing:

Rinse mouth thoroughly  
Seek medical attention if irritation, discomfort, or vomiting persists

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### Cobalt (II) Chloride, Hexahydrate

Call a POISON CONTROL CENTER or seek medical attention if you feel unwell  
Do not induce vomiting  
Rinse mouth and then drink plenty of water

#### Most important symptoms and effects, both acute and delayed

##### Acute symptoms and effects:

Not determined or not applicable.

##### Delayed symptoms and effects:

Not determined or not applicable.

#### Immediate medical attention and special treatment

##### Specific treatment:

Not determined or not applicable.

##### Notes for the doctor:

Not determined or not applicable.

### SECTION 5: Firefighting measures

#### Extinguishing media

##### Suitable extinguishing media:

Use appropriate fire suppression agents for adjacent combustible materials or sources of ignition

##### Unsuitable extinguishing media:

Not determined or not applicable.

#### Specific hazards during fire-fighting:

Thermal decomposition can lead to release of irritating gases and vapors

#### Special protective equipment for firefighters:

Wear protective eye wear, gloves and clothing  
Refer to Section 8

#### Special precautions:

Avoid inhaling gases, fumes, dust, mist, vapor and aerosols  
Avoid contact with skin, eyes and clothing

### SECTION 6: Accidental release measures

#### Personal precautions, protective equipment and emergency procedures:

Ensure adequate ventilation  
Ensure air handling systems are operational  
Wear protective eye wear, gloves and clothing

#### Environmental precautions:

Should not be released into the environment  
Prevent from reaching drains, sewer or waterway

#### Methods and material for containment and cleaning up:

Wear protective eye wear, gloves and clothing

#### Reference to other sections:

Not determined or not applicable.

### SECTION 7: Handling and storage

#### Precautions for safe handling:

Do not eat, drink, smoke or use personal products when handling chemical substances.  
Avoid breathing mist or vapor.

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## Cobalt (II) Chloride, Hexahydrate

### Conditions for safe storage, including any incompatibilities:

Store in a cool, well-ventilated area.

## SECTION 8: Exposure controls/personal protection

Only those substances with limit values have been included below.

### Occupational Exposure limit values:

No occupational exposure limits noted for the ingredient(s).

### Biological limit values:

No biological exposure limits noted for the ingredient(s).

### Information on monitoring procedures:

Not determined or not applicable.

### Appropriate engineering controls:

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use or handling.

### Personal protection equipment

#### Eye and face protection:

Safety goggles or glasses, or appropriate eye protection.

#### Skin and body protection:

Select glove material impermeable and resistant to the substance.

#### Respiratory protection:

When necessary, use NIOSH-approved breathing equipment.

### General hygienic measures:

Wash hands before breaks and at the end of work.

Avoid contact with skin, eyes and clothing.

## SECTION 9: Physical and chemical properties

### Information on basic physical and chemical properties

<b>Appearance</b>	Pink to red crystals
<b>Odor</b>	Odorless
<b>Odor threshold</b>	Not determined or not available.
<b>pH</b>	4.6 (0.2M solution)
<b>Melting point/freezing point</b>	87°C (189°F)
<b>Initial boiling point/range</b>	1049°C (1920°F)
<b>Flash point (closed cup)</b>	Not determined or not available.
<b>Evaporation rate</b>	Not determined or not available.
<b>Flammability (solid, gas)</b>	Not determined or not available.
<b>Upper flammability/explosive limit</b>	Not determined or not available.
<b>Lower flammability/explosive limit</b>	Not determined or not available.
<b>Vapor pressure</b>	Not determined or not available.
<b>Vapor density</b>	Not determined or not available.
<b>Density</b>	Not determined or not available.
<b>Relative density</b>	1.924 g/cm <sup>3</sup>
<b>Solubilities</b>	76.7g/ 100mL (0°C)
<b>Partition coefficient (n-octanol/water)</b>	Not determined or not available.
<b>Auto/Self-ignition temperature</b>	Not determined or not available.

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## Cobalt (II) Chloride, Hexahydrate

<b>Decomposition temperature</b>	110°C (230°F)
<b>Dynamic viscosity</b>	Not determined or not available.
<b>Kinematic viscosity</b>	Not determined or not available.
<b>Explosive properties</b>	Not determined or not available.
<b>Oxidizing properties</b>	Not determined or not available.

### Other information

<b>Molecular Weight</b>	237.95
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## SECTION 10: Stability and reactivity

### Reactivity:

Does not react under normal conditions of use and storage.

### Chemical stability:

Stable under normal conditions of use and storage.

### Possibility of hazardous reactions:

None under normal conditions of use and storage.

### Conditions to avoid:

Store away from oxidizing agents, strong acids or bases. moisture. Dust generation, moisture, excessive heat.

### Incompatible materials:

Strong acids. Strong bases. potassium and metal halides. sodium dispersions. t-butyl hydroperoxide. strong

### Hazardous decomposition products:

Carbon oxides (CO, CO<sub>2</sub>). Heating to decomposition may lead to the release of toxic fumes of Chlorides and

## SECTION 11: Toxicological information

### Acute toxicity

**Assessment:** Harmful if swallowed

**Product data:** No data available.

**Substance data:**

Name	Route	Result
Cobalt dichloride hexahydrate	oral	LD50 Oral - Rat - 766 mg/kg

### Skin corrosion/irritation

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

### Serious eye damage/irritation

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

### Respiratory or skin sensitization

**Assessment:** May cause an allergic skin reaction May cause allergy or asthma symptoms or breathing difficulties if inhaled

**Product data:** No data available.

**Substance data:**

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## Cobalt (II) Chloride, Hexahydrate

Name	Result
Cobalt dichloride hexahydrate	Prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals
	May cause allergy or asthma symptoms or breathing difficulties if inhaled

### Carcinogenicity

**Assessment:** May cause cancer

**Product data:** No data available.

**Substance data:** No data available.

**International Agency for Research on Cancer (IARC):** None of the ingredients are listed.

**National Toxicology Program (NTP):** None of the ingredients are listed.

### Germ cell mutagenicity

**Assessment:** Suspected of causing genetic defects

**Product data:** No data available.

**Substance data:**

Name	Result
Cobalt dichloride hexahydrate	Suspected of causing genetic defects

### Reproductive toxicity

**Assessment:** May damage fertility or the unborn child

**Product data:** No data available.

**Substance data:**

Name	Result
Cobalt dichloride hexahydrate	Suspected of damaging fertility or the unborn child

### Specific target organ toxicity (single exposure)

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

### Specific target organ toxicity (repeated exposure)

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

### Aspiration toxicity

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

**Information on likely routes of exposure:** No data available.

**Symptoms related to the physical, chemical and toxicological characteristics:** No data available.

**Other information:** No data available.

## SECTION 12: Ecological information

### Acute (short-term) toxicity

**Assessment:** Very toxic to aquatic life

**Product data:** No data available.

**Substance data:** No data available.

### Chronic (long-term) toxicity

**Product data:** No data available.

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## Cobalt (II) Chloride, Hexahydrate

**Substance data:** No data available.

### Persistence and degradability

**Product data:** No data available.

**Substance data:** No data available.

### Bioaccumulative potential

**Product data:** No data available.

**Substance data:** No data available.

### Mobility in soil

**Product data:** No data available.

**Substance data:** No data available.

**Other adverse effects:** No data available.

## SECTION 13: Disposal considerations

### Disposal methods:

It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11)

## SECTION 14: Transport information

### United States Transportation of dangerous goods (49 CFR DOT)

UN number	Not regulated
UN proper shipping name	Not regulated
UN transport hazard class(es)	None
Packing group	None
Environmental hazards	None
Special precautions for user	None

### International Maritime Dangerous Goods (IMDG)

UN number	Not regulated
UN proper shipping name	Not regulated
UN transport hazard class(es)	None
Packing group	None
Environmental hazards	None
Special precautions for user	None

### International Air Transport Association Dangerous Goods Regulations (IATA-DGR)

UN number	Not regulated
UN proper shipping name	Not regulated
UN transport hazard class(es)	None
Packing group	None
Environmental hazards	None
Special precautions for user	None

## SECTION 15: Regulatory information

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## Cobalt (II) Chloride, Hexahydrate

### United States regulations

#### Inventory listing (TSCA):

7791-13-1	Cobalt dichloride hexahydrate	Not Listed
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**Significant New Use Rule (TSCA Section 5):** Not determined.

**Export notification under TSCA Section 12(b):** Not determined.

#### SARA Section 311/312 hazards:

Acute	Chronic	Fire	Pressure	Reactive
No	No	No	No	No

**SARA Section 302 extremely hazardous substances:** Not determined.

#### SARA Section 313 toxic chemicals:

7791-13-1	Cobalt Chloride Hexahydrate	Not Listed
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**CERCLA:** Not determined.

**RCRA:** Not determined.

**Section 112(r) of the Clean Air Act (CAA):** Not determined.

#### Massachusetts Right to Know:

7791-13-1	Cobalt Chloride Hexahydrate	Listed
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#### New Jersey Right to Know:

7791-13-1	Cobalt Chloride Hexahydrate	Listed
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#### New York Right to Know:

7791-13-1	Cobalt Chloride Hexahydrate	Listed
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#### Pennsylvania Right to Know:

7791-13-1	Cobalt Chloride Hexahydrate	Listed
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**California Proposition 65:** None of the ingredients are listed.

## SECTION 16: Other information

**Abbreviations and Acronyms:** None

#### Disclaimer:

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations. The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations applicable to this material.

**NFPA:** 3-0-0

**HMIS:** 3-0-0-X

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**End of Safety Data Sheet**

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## Hydrochloric Acid,12M

### SECTION 1: Identification

#### Product identifier

**Product name:** Hydrochloric Acid,12M

**Product code:** KEMHA1000-AA

#### Recommended use of the product and restriction on use

**Relevant identified uses:** Not determined or not applicable.

**Uses advised against:** Not determined or not applicable.

**Reasons why uses advised against:** Not determined or not applicable.

#### Manufacturer or supplier details

##### Manufacturer:

##### Supplier:

AquaPhoenix Scientific  
860 Gitts Run Road  
Hanover  
PA 17331  
(717) 632-1291

AquaPhoenix Scientific Inc.  
860 Gitts Run Road  
Hanover  
PA 17331  
(717) 632-1291

#### Emergency telephone number:

##### United States

Emergency Telephone No.: 800-255-3924

### SECTION 2: Hazard(s) identification

#### GHS classification:

Corrosive to metals, category 1

Skin corrosion, category 1B

Serious eye damage, category 1

Acute toxicity (oral), category 4

Specific target organ toxicity - single exposure, category 3, respiratory irritation

#### Label elements

##### Hazard pictograms:



**Signal word:** Danger

##### Hazard statements:

H290 May be corrosive to metals

H200 Unstable explosive

H314 Causes severe skin burns and eye damage

H318 Causes serious eye damage

H302 Harmful if swallowed

H335 May cause respiratory irritation

##### Precautionary statements:

P234 Keep only in original container

P260 Do not breathe dust/fume/gas/mist/vapors/spray



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## Hydrochloric Acid,12M

P264 Wash skin thoroughly after handling  
P280 Wear protective gloves/protective clothing/eye protection/face protection  
P201 Obtain special instructions before use  
P202 Do not handle until all safety precautions have been read and understood  
P270 Do not eat, drink or smoke when using this product  
P271 Use only outdoors or in a well-ventilated area  
P390 Absorb spillage to prevent material damage  
P321 Specific treatment (see supplemental first aid instructions on this label).  
P363 Wash contaminated clothing before reuse  
P304+P340+P310 If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a poison center or doctor/physician  
P301+P330+P331+P310 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician.  
P303+P361+P353+P310 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately call a POISON CENTER or doctor/physician.  
P305+P351+P338+P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.  
P372 Explosion risk in case of fire  
P373 Do not fight fire when fire reaches explosives  
P380 Evacuate area  
P406 Store in corrosive resistant stainless steel container with a resistant inner liner  
P405 Store locked up  
P401 Store ...  
P403+P233 Store in a well ventilated place. Keep container tightly closed  
P501 Dispose of contents and container as instructed in Section 13

**Hazards not otherwise classified:** None

## SECTION 3: Composition/information on ingredients

Identification	Name	Weight %
CAS number: 7732-18-5	Water	50-70
CAS number: 7647-01-0	Hydrochloric acid	30-50

**Additional Information:** None

## SECTION 4: First aid measures

### Description of first aid measures

#### General notes:

Not determined or not applicable.

#### After inhalation:

Loosen clothing as necessary and position individual in a comfortable position  
Maintain an unobstructed airway  
Get medical advice/attention if you feel unwell  
Move exposed individual to fresh air  
Immediately call a POISON CONTROL CENTER or seek medical attention

#### After skin contact:

Rinse affected area with soap and water  
If symptoms develop or persist, seek medical attention

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### Hydrochloric Acid, 12M

Immediately remove all contaminated clothing  
Wash affected area with soap and water  
Immediately call a POISON CONTROL CENTER or seek medical attention

#### After eye contact:

Rinse/flush exposed eye(s) gently using water for 15-20 minutes  
Remove contact lenses, if present and easy to do  
Continue rinsing  
Get medical advice/attention  
Remove contact lens(es) if able to do so during rinsing  
Immediately call a POISON CONTROL CENTER or seek medical attention

#### After swallowing:

Rinse mouth and then drink plenty of water  
Do not induce vomiting  
Get medical advice/attention if you feel unwell  
Immediately call a POISON CONTROL CENTER or seek medical attention

#### Most important symptoms and effects, both acute and delayed

##### Acute symptoms and effects:

Not determined or not applicable.

##### Delayed symptoms and effects:

Not determined or not applicable.

#### Immediate medical attention and special treatment

##### Specific treatment:

Not determined or not applicable.

##### Notes for the doctor:

Not determined or not applicable.

### SECTION 5: Firefighting measures

#### Extinguishing media

##### Suitable extinguishing media:

Use appropriate fire suppression agents for adjacent combustible materials or sources of ignition

##### Unsuitable extinguishing media:

Not determined or not applicable.

#### Specific hazards during fire-fighting:

Thermal decomposition can lead to release of irritating gases and vapors

#### Special protective equipment for firefighters:

Wear protective eye wear, gloves and clothing  
Refer to Section 8  
Use typical firefighting equipment, self-contained breathing apparatus, special tightly sealed suit

#### Special precautions:

Heating causes a rise in pressure, risk of bursting and combustion  
Shut off sources of ignition  
Carbon monoxide and carbon dioxide may form upon combustion

### SECTION 6: Accidental release measures

#### Personal precautions, protective equipment and emergency procedures:

Ensure adequate ventilation  
Ensure air handling systems are operational

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## Hydrochloric Acid, 12M

Wear protective eye wear, gloves and clothing

### Environmental precautions:

Should not be released into the environment  
Prevent from reaching drains, sewer or waterway

### Methods and material for containment and cleaning up:

Absorb with non-combustible liquid-binding material (sand, diatomaceous earth (clay), acid binders, universal binders)  
Dispose of contents / container in accordance with local regulations

### Reference to other sections:

Not determined or not applicable.

## SECTION 7: Handling and storage

### Precautions for safe handling:

Do not eat, drink, smoke or use personal products when handling chemical substances.  
Avoid breathing mist or vapor.  
Use only with adequate ventilation.

### Conditions for safe storage, including any incompatibilities:

Store in a cool, well-ventilated area.  
Store away from foodstuffs.

## SECTION 8: Exposure controls/personal protection

Only those substances with limit values have been included below.

### Occupational Exposure limit values:

Country (Legal Basis)	Substance	Identifier	Permissible concentration
ACGIH	Hydrochloric acid	7647-01-0	ACGIH TLV C 2.0 ppm
United States (OSHA)	Hydrochloric acid	7647-01-0	OSHA PEL C 5.0 ppm
	Hydrochloric acid	7647-01-0	OSHA PEL C 7.0 mg/m <sup>3</sup>
NIOSH	Hydrochloric acid	7647-01-0	NIOSH REL C 5.0 ppm
	Hydrochloric acid	7647-01-0	NIOSH REL C 7.0 mg/m <sup>3</sup>

### Biological limit values:

No biological exposure limits noted for the ingredient(s).

### Information on monitoring procedures:

Not determined or not applicable.

### Appropriate engineering controls:

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use or handling.  
Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor and mists below the applicable workplace exposure limits (Occupational Exposure Limits-OELs) indicated above.

### Personal protection equipment

#### Eye and face protection:

Safety goggles or glasses, or appropriate eye protection.

#### Skin and body protection:

Select glove material impermeable and resistant to the substance.

#### Respiratory protection:

When necessary, use NIOSH-approved breathing equipment.

### General hygienic measures:

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## Hydrochloric Acid,12M

Wash hands before breaks and at the end of work.  
Avoid contact with skin, eyes and clothing.  
Perform routine housekeeping.  
Wash contaminated clothing before reusing.

## SECTION 9: Physical and chemical properties

### Information on basic physical and chemical properties

<b>Appearance</b>	Clear, colorless liquid
<b>Odor</b>	Alcohol
<b>Odor threshold</b>	0.3 - 14.9 mg/m3
<b>pH</b>	< 1
<b>Melting point/freezing point</b>	- 74 C
<b>Initial boiling point/range</b>	81.5 - 110 C
<b>Flash point (closed cup)</b>	Not determined or not available.
<b>Evaporation rate</b>	>1.00
<b>Flammability (solid, gas)</b>	Not determined or not available.
<b>Upper flammability/explosive limit</b>	Not determined or not available.
<b>Lower flammability/explosive limit</b>	Not determined or not available.
<b>Vapor pressure</b>	5.7 mmHg at 0°C
<b>Vapor density</b>	1.27 (Air = 1)
<b>Density</b>	Not determined or not available.
<b>Relative density</b>	1.0 - 1.2
<b>Solubilities</b>	Not determined or not available.
<b>Partition coefficient (n-octanol/water)</b>	Not determined or not available.
<b>Auto/Self-ignition temperature</b>	Not determined or not available.
<b>Decomposition temperature</b>	Not determined or not available.
<b>Dynamic viscosity</b>	Not determined or not available.
<b>Kinematic viscosity</b>	Not determined or not available.
<b>Explosive properties</b>	Not determined or not available.
<b>Oxidizing properties</b>	Not determined or not available.

### Other information

## SECTION 10: Stability and reactivity

### Reactivity:

Does not react under normal conditions of use and storage.

### Chemical stability:

Stable under normal conditions of use and storage.

### Possibility of hazardous reactions:

None under normal conditions of use and storage.

### Conditions to avoid:

None known.

### Incompatible materials:

None known.

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## Hydrochloric Acid, 12M

### Hazardous decomposition products:

None known.

## SECTION 11: Toxicological information

### Acute toxicity

**Assessment:** Harmful if swallowed

**Product data:** No data available.

**Substance data:**

Name	Route	Result
Hydrochloric acid	inhalation	LC50 - Mouse - 1,108 ppm / 1h

### Skin corrosion/irritation

**Assessment:** Causes severe skin burns and eye damage

**Product data:** No data available.

**Substance data:**

Name	Result
Hydrochloric acid	Causes severe skin burns and eye damage.

### Serious eye damage/irritation

**Assessment:** Causes serious eye damage

**Product data:** No data available.

**Substance data:** No data available.

### Respiratory or skin sensitization

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

### Carcinogenicity

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

**International Agency for Research on Cancer (IARC):**

Name	Classification
Hydrochloric acid	Group 3 - Not classifiable as to its carcinogenicity to humans

**National Toxicology Program (NTP):** None of the ingredients are listed.

### Germ cell mutagenicity

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

### Reproductive toxicity

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

### Specific target organ toxicity (single exposure)

**Assessment:** May cause respiratory irritation

**Product data:** No data available.

**Substance data:** No data available.

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## Hydrochloric Acid, 12M

### Specific target organ toxicity (repeated exposure)

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

### Aspiration toxicity

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

**Information on likely routes of exposure:** No data available.

**Symptoms related to the physical, chemical and toxicological characteristics:** No data available.

**Other information:** No data available.

## SECTION 12: Ecological information

### Acute (short-term) toxicity

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

### Chronic (long-term) toxicity

**Product data:** No data available.

**Substance data:** No data available.

### Persistence and degradability

**Product data:** No data available.

**Substance data:** No data available.

### Bioaccumulative potential

**Product data:** No data available.

**Substance data:** No data available.

### Mobility in soil

**Product data:** No data available.

**Substance data:** No data available.

**Other adverse effects:** No data available.

## SECTION 13: Disposal considerations

### Disposal methods:

It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11)

## SECTION 14: Transport information

### United States Transportation of dangerous goods (49 CFR DOT)

<b>UN number</b>	UN1789
<b>UN proper shipping name</b>	Hydrochloric Acid.
<b>UN transport hazard class(es)</b>	8
<b>Packing group</b>	II
<b>Environmental hazards</b>	None
<b>Special provisions</b>	



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### Hydrochloric Acid, 12M

#### International Maritime Dangerous Goods (IMDG)

<b>UN number</b>	UN1789
<b>UN proper shipping name</b>	Hydrochloric Acid.
<b>UN transport hazard class(es)</b>	8 
<b>Packing group</b>	II
<b>Environmental hazards</b>	None
<b>Special precautions for user</b>	None

#### International Air Transport Association Dangerous Goods Regulations (IATA-DGR)

<b>UN number</b>	UN1789
<b>UN proper shipping name</b>	Hydrochloric Acid.
<b>UN transport hazard class(es)</b>	8 
<b>Packing group</b>	II
<b>Environmental hazards</b>	None
<b>Special precautions for user</b>	None

### SECTION 15: Regulatory information

#### United States regulations

##### Inventory listing (TSCA):

7647-01-0	Hydrochloric acid	Listed
7732-18-5	Water	Listed

**Significant New Use Rule (TSCA Section 5):** Not determined.

**Export notification under TSCA Section 12(b):** Not determined.

##### SARA Section 311/312 hazards:

Acute	Chronic	Fire	Pressure	Reactive
No	No	No	No	No

**SARA Section 302 extremely hazardous substances:** Not determined.

##### SARA Section 313 toxic chemicals:

7647-01-0	Hydrochloric acid	Not Listed
7732-18-5	Water	Not Listed

##### CERCLA:

7647-01-0	Hydrochloric acid	Listed	5000 lbs.
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**RCRA:** Not determined.

##### Section 112(r) of the Clean Air Act (CAA):

7647-01-0	Hydrochloric acid	Listed
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##### Massachusetts Right to Know:

7647-01-0	Hydrochloric acid	Listed
7732-18-5	Water	Not Listed

# Safety Data Sheet

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## Hydrochloric Acid, 12M

### New Jersey Right to Know:

7647-01-0	Hydrochloric acid	Listed
7732-18-5	Water	Not Listed

### New York Right to Know:

7647-01-0	Hydrochloric acid	Listed
7732-18-5	Water	Not Listed

### Pennsylvania Right to Know:

7647-01-0	Hydrochloric acid	Listed
7732-18-5	Water	Not Listed

**California Proposition 65:** None of the ingredients are listed.

## SECTION 16: Other information

**Abbreviations and Acronyms:** None

### Disclaimer:

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations. The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations applicable to this material.

**NFPA:** 1-3-0

**HMIS:** 0-3-0

**Initial preparation date:** 01.24.2018

**End of Safety Data Sheet**



# Safety Data Sheet

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## Hydrochloric Acid 12N

### SECTION 1: Identification

#### Product identifier

**Product name:** Hydrochloric Acid 12N

**Product code:** KEMHA6350-B

#### Recommended use of the product and restriction on use

**Relevant identified uses:** Laboratory Chemicals

**Uses advised against:** Not determined or not applicable.

**Reasons why uses advised against:** Not determined or not applicable.

#### Manufacturer or supplier details

<b>Manufacturer:</b>	<b>Supplier:</b>
<b>United States</b>	<b>United States</b>
AquaPhoenix Scientific	AquaPhoenix Scientific Inc.
860 Gitts Run Road	860 Gitts Run Road
Hanover	Hanover
PA 17331	PA 17331
(717) 632-1291	(717) 632-1291

#### Emergency telephone number:

**United States**

Emergency Telephone No.: 800-255-3924

### SECTION 2: Hazard(s) identification

#### GHS classification:

Skin corrosion, category 1A

Serious eye damage, category 1

Acute toxicity (inhalation), category 3

#### Label elements

##### Hazard pictograms:



**Signal word:** Danger

#### Hazard statements:

H314 Causes severe skin burns and eye damage.

H318 Causes serious eye damage.

H331 Toxic if inhaled.

#### Precautionary statements:

P260 Do not breathe dust/fume/gas/mist/vapors/spray.

P264 Wash skin thoroughly after handling.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P271 Use only outdoors or in a well-ventilated area.

P321 Specific treatment (see supplemental first aid instructions on this label).

P363 Wash contaminated clothing before reuse.

P304+P340+P310 If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for

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## Hydrochloric Acid 12N

breathing. Immediately call a poison center or doctor/physician.  
P301+P330+P331+P310 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician.  
P303+P361+P353+P310 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately call a POISON CENTER or doctor/physician.  
P305+P351+P338+P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.  
P405 Store locked up.  
P403+P233 Store in a well ventilated place. Keep container tightly closed.  
P501 Dispose of contents and container as instructed in Section 13.

**Hazards not otherwise classified:** None

### SECTION 3: Composition/information on ingredients

Identification	Name	Weight %
CAS number: 7732-18-5	Water	50
CAS number: 7647-01-0	Hydrochloric acid	50

**Additional Information:** None

### SECTION 4: First aid measures

#### Description of first aid measures

**General notes:**

Not determined or not applicable.

**After inhalation:**

Move exposed individual to fresh air  
Loosen clothing as necessary and position individual in a comfortable position  
Maintain an unobstructed airway  
Call a POISON CONTROL CENTER or seek medical attention

**After skin contact:**

Immediately remove all contaminated clothing  
Wash affected area with soap and water  
Immediately call a POISON CONTROL CENTER or seek medical attention

**After eye contact:**

Rinse/flush exposed eye(s) gently using water for 15-20 minutes  
Remove contact lens(es) if able to do so during rinsing  
Immediately call a POISON CONTROL CENTER or seek medical attention

**After swallowing:**

Immediately call a POISON CONTROL CENTER or seek medical attention  
Do not induce vomiting  
Rinse mouth and then drink plenty of water

#### Most important symptoms and effects, both acute and delayed

**Acute symptoms and effects:**

Not determined or not applicable.

**Delayed symptoms and effects:**

Not determined or not applicable.

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## Hydrochloric Acid 12N

### Immediate medical attention and special treatment

#### Specific treatment:

Not determined or not applicable.

#### Notes for the doctor:

Not determined or not applicable.

## SECTION 5: Firefighting measures

### Extinguishing media

#### Suitable extinguishing media:

Use appropriate fire suppression agents for adjacent combustible materials or sources of ignition

#### Unsuitable extinguishing media:

Not determined or not applicable.

### Specific hazards during fire-fighting:

Thermal decomposition can lead to release of irritating gases and vapors

### Special protective equipment for firefighters:

Wear protective eye wear, gloves and clothing

Refer to Section 8

Use typical firefighting equipment, self-contained breathing apparatus, special tightly sealed suit

### Special precautions:

Heating causes a rise in pressure, risk of bursting and combustion

Shut off sources of ignition

Carbon monoxide and carbon dioxide may form upon combustion

## SECTION 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures:

Ensure adequate ventilation

Ensure air handling systems are operational

Wear protective eye wear, gloves and clothing

### Environmental precautions:

Should not be released into the environment

Prevent from reaching drains, sewer or waterway

### Methods and material for containment and cleaning up:

Absorb with non-combustible liquid-binding material (sand, diatomaceous earth (clay), acid binders, universal binders)

Dispose of contents / container in accordance with local regulations

### Reference to other sections:

Not determined or not applicable.

## SECTION 7: Handling and storage

### Precautions for safe handling:

Do not eat, drink, smoke or use personal products when handling chemical substances.

Avoid breathing mist or vapor.

Use only with adequate ventilation.

### Conditions for safe storage, including any incompatibilities:

Store in a cool, well-ventilated area.

Store away from foodstuffs.

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## Hydrochloric Acid 12N

### SECTION 8: Exposure controls/personal protection

Only those substances with limit values have been included below.

#### Occupational Exposure limit values:

Country (Legal Basis)	Substance	Identifier	Permissible concentration
ACGIH	Hydrochloric acid	7647-01-0	ACGIH TLV C 2.0 ppm
United States (OSHA)	Hydrochloric acid	7647-01-0	OSHA PEL C 5.0 ppm
	Hydrochloric acid	7647-01-0	OSHA PEL C 7.0 mg/m <sup>3</sup>
NIOSH	Hydrochloric acid	7647-01-0	NIOSH REL C 5.0 ppm
	Hydrochloric acid	7647-01-0	NIOSH REL C 7.0 mg/m <sup>3</sup>

#### Biological limit values:

No biological exposure limits noted for the ingredient(s).

#### Information on monitoring procedures:

Not determined or not applicable.

#### Appropriate engineering controls:

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use or handling.

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor and mists below the applicable workplace exposure limits (Occupational Exposure Limits-OELs) indicated above.

#### Personal protection equipment

##### Eye and face protection:

Safety goggles or glasses, or appropriate eye protection.

##### Skin and body protection:

Select glove material impermeable and resistant to the substance.

##### Respiratory protection:

When necessary, use NIOSH-approved breathing equipment.

#### General hygienic measures:

Wash hands before breaks and at the end of work.

Avoid contact with skin, eyes and clothing.

Perform routine housekeeping.

Wash contaminated clothing before reusing.

### SECTION 9: Physical and chemical properties

#### Information on basic physical and chemical properties

Appearance	Clear, colorless liquid
Odor	Slightly pungent
Odor threshold	Not available
pH	<1
Melting point/freezing point	Approx. 0°C
Initial boiling point/range	Approx. 100°C
Flash point (closed cup)	Not available
Evaporation rate	Not available
Flammability (solid, gas)	Not available
Upper flammability/explosive limit	Not available

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## Hydrochloric Acid 12N

<b>Lower flammability/explosive limit</b>	Not available
<b>Vapor pressure</b>	Not available
<b>Vapor density</b>	Not available
<b>Density</b>	Not available
<b>Relative density</b>	Approx. 1.03 - 1.17
<b>Solubilities</b>	Not determined or not available.
<b>Partition coefficient (n-octanol/water)</b>	Not available
<b>Auto/Self-ignition temperature</b>	Not available
<b>Decomposition temperature</b>	Not available
<b>Dynamic viscosity</b>	Not available
<b>Kinematic viscosity</b>	Not available
<b>Explosive properties</b>	Not determined or not available.
<b>Oxidizing properties</b>	Not determined or not available.

### Other information

#### SECTION 10: Stability and reactivity

**Reactivity:**

Does not react under normal conditions of use and storage.

**Chemical stability:**

Stable under normal conditions of use and storage.

**Possibility of hazardous reactions:**

None under normal conditions of use and storage.

**Conditions to avoid:**

None known.

**Incompatible materials:**

None known.

**Hazardous decomposition products:**

None known.

#### SECTION 11: Toxicological information

**Acute toxicity**

**Assessment:** Toxic if inhaled

**Product data:** No data available.

**Substance data:**

Name	Route	Result
Hydrochloric acid	inhalation	LC50 - Mouse - 1,108 ppm / 1h

**Skin corrosion/irritation**

**Assessment:** Causes severe skin burns and eye damage

**Product data:** No data available.

**Substance data:**

Name	Result
Hydrochloric acid	Causes severe skin burns and eye damage.

**Serious eye damage/irritation**

**Assessment:** Causes serious eye damage

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## Hydrochloric Acid 12N

**Product data:** No data available.

**Substance data:** No data available.

### Respiratory or skin sensitization

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

### Carcinogenicity

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

### International Agency for Research on Cancer (IARC):

Name	Classification
Hydrochloric acid	Group 3 - Not classifiable as to its carcinogenicity to humans

**National Toxicology Program (NTP):** None of the ingredients are listed.

### Germ cell mutagenicity

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

### Reproductive toxicity

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

### Specific target organ toxicity (single exposure)

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

### Specific target organ toxicity (repeated exposure)

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

### Aspiration toxicity

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

**Information on likely routes of exposure:** No data available.

**Symptoms related to the physical, chemical and toxicological characteristics:** No data available.

**Other information:** No data available.

## SECTION 12: Ecological information

### Acute (short-term) toxicity

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

### Chronic (long-term) toxicity

**Product data:** No data available.

**Substance data:** No data available.

# Safety Data Sheet

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## Hydrochloric Acid 12N

### Persistence and degradability

**Product data:** No data available.

**Substance data:** No data available.

### Bioaccumulative potential

**Product data:** No data available.

**Substance data:** No data available.

### Mobility in soil

**Product data:** No data available.

**Substance data:** No data available.

**Other adverse effects:** No data available.


## SECTION 13: Disposal considerations

### Disposal methods:


It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11)

## SECTION 14: Transport information


### United States Transportation of dangerous goods (49 CFR DOT)

UN number	UN1789
UN proper shipping name	Hydrochloric Acid Solution
UN transport hazard class(es)	8 
Packing group	II
Environmental hazards	None
Special precautions for user	None

### International Maritime Dangerous Goods (IMDG)

UN number	UN1789
UN proper shipping name	Hydrochloric Acid Solution
UN transport hazard class(es)	8 
Packing group	II
Environmental hazards	None
Special precautions for user	None

### International Air Transport Association Dangerous Goods Regulations (IATA-DGR)

UN number	UN1789
UN proper shipping name	Hydrochloric Acid Solution
UN transport hazard class(es)	8 
Packing group	II
Environmental hazards	None
Special precautions for user	None

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## Hydrochloric Acid 12N

### Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Bulk Name	None
Ship type	None
Pollution category	None

## SECTION 15: Regulatory information

### United States regulations

#### Inventory listing (TSCA):

7647-01-0	Hydrochloric acid	Listed
7732-18-5	Water	Listed

**Significant New Use Rule (TSCA Section 5):** Not determined.

**Export notification under TSCA Section 12(b):** Not determined.

#### SARA Section 311/312 hazards:

Acute	Chronic	Fire	Pressure	Reactive
No	No	No	No	No

#### SARA Section 302 extremely hazardous substances:

7647-01-0	Hydrochloric acid	Listed
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#### SARA Section 313 toxic chemicals:

7647-01-0	Hydrochloric acid	Listed
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#### CERCLA:

7647-01-0	Hydrochloric acid	Listed	5000
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**RCRA:** Not determined.

**Section 112(r) of the Clean Air Act (CAA):** Not determined.

#### Massachusetts Right to Know:

7647-01-0	Hydrochloric acid	Listed
7732-18-5	Water	Not Listed

#### New Jersey Right to Know:

7647-01-0	Hydrochloric acid	Listed
7732-18-5	Water	Not Listed

#### New York Right to Know:

7647-01-0	Hydrochloric acid	Listed
7732-18-5	Water	Not Listed

#### Pennsylvania Right to Know:

7647-01-0	Hydrochloric acid	Listed
7732-18-5	Water	Not Listed

**California Proposition 65:** Not determined.

## SECTION 16: Other information

**Abbreviations and Acronyms:** None

**Disclaimer:**



## Safety Data Sheet

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### Hydrochloric Acid 12N

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations. The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations applicable to this material.

**NFPA:** 3-0-0

**HMIS:** 3-0-0

**Initial preparation date:** 04.19.2017

**End of Safety Data Sheet**

# Safety Data Sheet

acc. to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Printing date: March 11, 2019

Revision: March 11, 2019


## 1 Identification

- **Product identifier**
- **Trade name: Methyl Red Stock Solution**
- **Product code:** KEMMR6200-4ML
- **Recommended use and restriction on use**
- **Recommended use:** Laboratory chemicals
- **Restrictions on use:** No relevant information available.
- **Details of the supplier of the Safety Data Sheet**
- **Manufacturer/Supplier:**  
AquaPhoenix Scientific, Inc.  
860 Gitts Run Road  
Hanover, PA 17331  
Phone: (717)632-1291  
Toll-Free: (866)632-1291  
info@aquaphoenixsci.com
- **Distributor:**  
AquaPhoenix Scientific, Inc.  
860 Gitts Run Road  
Hanover, PA 17331  
(717) 632-1291
- **Emergency telephone number:**  
ChemTel Inc.  
(800)255-3924 (North America)  
+1 (813)248-0585 (International)

## 2 Hazard(s) identification

- **Classification of the substance or mixture**  
Flam. Liq. 2 H225 Highly flammable liquid and vapor.  
Eye Irrit. 2A H319 Causes serious eye irritation.

---

- **Label elements**
- **GHS label elements**  
The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms:**  

  
GHS02 GHS07
- **Signal word:** Danger
- **Hazard statements:**  
H225 Highly flammable liquid and vapor.  
H319 Causes serious eye irritation.
- **Precautionary statements:**

P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P233	Keep container tightly closed.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting/equipment.

(Cont'd. on page 2)

# Safety Data Sheet

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**Trade name: Methyl Red Stock Solution**

(Cont'd. of page 1)



- P242 Use only non-sparking tools.
- P243 Take precautionary measures against static discharge.
- P264 Wash thoroughly after handling.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P337+P313 If eye irritation persists: Get medical advice/attention.
- P370+P378 In case of fire: Use for extinction: CO<sub>2</sub>, powder or water spray.
- P403+P235 Store in a well-ventilated place. Keep cool.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Other hazards** There are no other hazards not otherwise classified that have been identified.

## 3 Composition/information on ingredients

- **Chemical characterization: Mixtures**

• **Components:**

64-17-5	Ethanol	 Flam. Liq. 2, H225  Eye Irrit. 2A, H319	51.802%
7732-18-5	Water		48.084%
845-10-3	sodium 2-(p-(dimethylamino)phenylazo)benzoate		0.114%

• **Additional information:**

For the listed ingredient(s), the identity and/or exact percentage(s) are being withheld as a trade secret.  
For the wording of the listed Hazard Statements, refer to section 16.

## 4 First-aid measures

- **Description of first aid measures**
- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:**  
Supply fresh air; consult doctor in case of complaints.  
Provide oxygen treatment if affected person has difficulty breathing.
- **After skin contact:**  
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
If skin irritation is experienced, consult a doctor.
- **After eye contact:**  
Remove contact lenses if worn.  
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:**  
Rinse out mouth and then drink plenty of water.  
Do not induce vomiting; immediately call for medical help.
- **Most important symptoms and effects, both acute and delayed:**  
Causes eye irritation.  
Breathing difficulty  
Coughing

(Cont'd. on page 3)

# Safety Data Sheet

acc. to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Printing date: March 11, 2019

Revision: March 11, 2019

**Trade name: Methyl Red Stock Solution**

(Cont'd. of page 2)

Causes mild skin irritation.  
 Gastric or intestinal disorders when ingested.  
 Nausea in case of ingestion.  
 Dizziness  
 Acidosis  
 Disorientation  
 Unconsciousness

· **Danger:**

May cause neurotoxic effects.  
 Danger of impaired breathing.

· **Indication of any immediate medical attention and special treatment needed:**

If medical advice is needed, have product container or label at hand.

## 5 Fire-fighting measures

· **Extinguishing media**

· **Suitable extinguishing agents:**

Alcohol resistant foam  
 Water fog / haze  
 Carbon dioxide  
 Gaseous extinguishing agents  
 Fire-extinguishing powder

· **For safety reasons unsuitable extinguishing agents:** Water stream.

· **Special hazards arising from the substance or mixture**

Highly flammable liquid and vapor.  
 Formation of toxic gases is possible during heating or in case of fire.

· **Advice for firefighters**

· **Protective equipment:**

Wear self-contained respiratory protective device.  
 Wear fully protective suit.

· **Additional information:**

Eliminate all ignition sources if safe to do so.  
 Use large quantities of foam as it is partially destroyed by the product.  
 Cool endangered receptacles with water in flooding quantities.

## 6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.  
 For large spills, use respiratory protective device against the effects of fumes/dust/aerosol.  
 Ensure adequate ventilation.  
 Keep away from ignition sources.  
 Protect from heat.

· **Environmental precautions**

Do not allow to enter sewers/ surface or ground water.  
 Inform respective authorities in case of seepage into water course or sewage system.

· **Methods and material for containment and cleaning up**

Absorb with non-combustible liquid-binding material (sand, diatomite, acid binders, universal binders).

(Cont'd. on page 4)

# Safety Data Sheet

acc. to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

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**Trade name: Methyl Red Stock Solution**

(Cont'd. of page 3)

Send for recovery or disposal in suitable receptacles.

· **Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

## 7 Handling and storage

· **Handling**

· **Precautions for safe handling:**

Prevent formation of aerosols.

Avoid splashes or spray in enclosed areas.

Use only in well ventilated areas.

· **Information about protection against explosions and fires:**

Highly flammable liquid and vapor.

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

Flammable gas-air mixtures may be formed in empty containers/receptacles.

· **Conditions for safe storage, including any incompatibilities**

· **Requirements to be met by storerooms and receptacles:**

Store in a cool location.

Due to photo-sensitivity, store product in brown-glass or stainless steel receptacles.

· **Information about storage in one common storage facility:**

Store away from foodstuffs.

Store away from oxidizing agents.

· **Further information about storage conditions:** Keep containers tightly sealed.

· **Specific end use(s)** No relevant information available.

## 8 Exposure controls/personal protection

· **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

**64-17-5 Ethanol**

PEL (USA)	Long-term value: 1900 mg/m <sup>3</sup> , 1000 ppm
REL (USA)	Long-term value: 1900 mg/m <sup>3</sup> , 1000 ppm
TLV (USA)	Short-term value: 1880 mg/m <sup>3</sup> , 1000 ppm
EL (Canada)	Short-term value: 1000 ppm
EV (Canada)	Long-term value: 1,900 mg/m <sup>3</sup> , 1,000 ppm
LMPE (Mexico)	Long-term value: 1000 ppm
	A3

· **Exposure controls**

· **General protective and hygienic measures:**

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

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# Safety Data Sheet

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Wash hands before breaks and at the end of work.

Do not inhale dust / smoke / mist.

- **Engineering controls:** Provide adequate ventilation.
- **Breathing equipment:** Not required under normal conditions of use.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

- **Material of gloves**  
Laminated film gloves.  
Nitrile rubber, NBR  
Neoprene gloves  
Butyl rubber, BR
- **Not suitable are gloves made of the following materials:**  
PVC gloves  
PVA gloves
- **Eye protection:**



Safety glasses

Follow relevant national guidelines concerning the use of protective eyewear.

- **Body protection:** Solvent resistant protective clothing
- **Limitation and supervision of exposure into the environment**  
No relevant information available.

## 9 Physical and chemical properties

### • Information on basic physical and chemical properties

#### • Appearance:

**Form:** Liquid  
**Color:** Light yellow

• **Odor:** Like alcohol

• **Odor threshold:** Not determined.

• **pH-value:** Not determined.

• **Melting point/Melting range:** Not determined.

• **Boiling point/Boiling range:** Not determined.

• **Flash point:** 13-22 °C (55.4-71.6 °F)

• **Flammability (solid, gaseous):** Not applicable.

• **Auto-ignition temperature:** Not determined.

• **Decomposition temperature:** Not determined.

• **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

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<ul style="list-style-type: none"> <li>· <b>Explosion limits</b> <ul style="list-style-type: none"> <li><b>Lower:</b> Not determined.</li> <li><b>Upper:</b> Not determined.</li> </ul> </li> <li>· <b>Oxidizing properties:</b> Not determined.</li> </ul>
<ul style="list-style-type: none"> <li>· <b>Vapor pressure:</b> Not determined.</li> </ul>
<ul style="list-style-type: none"> <li>· <b>Density at 20 °C (68 °F):</b> 0.87-0.90 g/cm<sup>3</sup> (7.26-7.51 lbs/gal)</li> <li>· <b>Relative density:</b> Not determined.</li> <li>· <b>Vapor density:</b> Not determined.</li> <li>· <b>Evaporation rate:</b> Not determined.</li> </ul>
<ul style="list-style-type: none"> <li>· <b>Solubility in / Miscibility with Water:</b> Fully miscible.</li> </ul>
<ul style="list-style-type: none"> <li>· <b>Partition coefficient (n-octanol/water):</b> Not determined.</li> </ul>
<ul style="list-style-type: none"> <li>· <b>Viscosity</b> <ul style="list-style-type: none"> <li><b>Dynamic:</b> Not determined.</li> <li><b>Kinematic:</b> Not determined.</li> </ul> </li> <li>· <b>Other information</b> No relevant information available.</li> </ul>

## 10 Stability and reactivity

- **Reactivity:** No relevant information available.
- **Chemical stability:** Stable under normal temperatures and pressures.
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used and stored according to specifications.
- **Possibility of hazardous reactions**  
Reacts violently with oxidizing agents.  
Highly flammable liquid and vapor.  
Toxic fumes may be released if heated above the decomposition point.  
Used empty containers may contain product gases which form explosive mixtures with air.  
Can form explosive mixtures in air if heated above flash point and/or when sprayed or atomized.
- **Conditions to avoid**  
Keep ignition sources away - Do not smoke.  
Store away from oxidizing agents.
- **Incompatible materials** No relevant information available.
- **Hazardous decomposition products**  
Under fire conditions only:  
Carbon monoxide and carbon dioxide

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **LD/LC50 values that are relevant for classification:**  
64-17-5 Ethanol

(Cont'd. on page 7)

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Oral	LD50	7,060 mg/kg (rat)
Inhalative	LC50/4h	20,000 mg/l (rat)

- **Primary irritant effect:**

- **On the skin:**

Based on available data, the classification criteria are not met.

Causes mild skin irritation.

- **On the eye:** Irritating effect.

- **Sensitization:** Based on available data, the classification criteria are not met.

- **IARC (International Agency for Research on Cancer):**

64-17-5	Ethanol	1
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- **NTP (National Toxicology Program):**

None of the ingredients are listed.

- **OSHA-Ca (Occupational Safety & Health Administration):**

None of the ingredients are listed.

- **Probable route(s) of exposure:**

Ingestion.

Inhalation.

Eye contact.

Skin contact.

- **Acute effects (acute toxicity, irritation and corrosivity):**

Irritating to eyes.

Causes mild skin irritation.

- **Repeated dose toxicity:** No relevant information available.

- **Germ cell mutagenicity:** Based on available data, the classification criteria are not met.

- **Carcinogenicity:** Based on available data, the classification criteria are not met.

- **Reproductive toxicity:** Based on available data, the classification criteria are not met.

- **STOT-single exposure:** Based on available data, the classification criteria are not met.

- **STOT-repeated exposure:** Based on available data, the classification criteria are not met.

- **Aspiration hazard:** Based on available data, the classification criteria are not met.

## 12 Ecological information

- **Toxicity**

- **Aquatic toxicity** No relevant information available.

- **Persistence and degradability** No relevant information available.

- **Bioaccumulative potential:** No relevant information available.

- **Mobility in soil:** No relevant information available.

- **Additional ecological information**

- **General notes:**

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

- **Other adverse effects** No relevant information available.

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## 13 Disposal considerations

- **Waste treatment methods**

- **Recommendation:**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system. The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes. Residual materials should be treated as hazardous.

- **Uncleaned packagings**

- **Recommendation:** Disposal must be made according to official regulations.

- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

## 14 Transport information

- **UN-Number**

- **DOT, ADR/RID/ADN, IMDG, IATA** UN1170

- **UN proper shipping name**

- **DOT** Ethanol
- **ADR/RID/ADN, IMDG, IATA** ETHANOL SOLUTION

- **Transport hazard class(es)**

- **DOT**



- **Class** 3
- **Label** 3

- **ADR/RID/ADN**



- **Class** 3 (F1)
- **Label** 3

- **IMDG, IATA**



- **Class** 3
- **Label** 3

- **Packing group**

- **DOT, ADR/RID/ADN, IMDG, IATA** II

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- |  |   |
|--|---|
| · <b>Environmental hazards</b>   | Not applicable.   |
| · <b>Special precautions for user</b>  | Warning: Flammable liquids                                      |
| · <b>Danger code (Kemler):</b>   | 33  |
| · <b>EMS Number:</b>   | F-E,S-D   |
| · <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b> | Not applicable.   |
| · <b>Transport/Additional information:</b>                                       |   |
| · <b>DOT</b>   |   |
| · <b>Quantity limitations</b>  | On passenger aircraft/rail: 5 L<br>On cargo aircraft only: 60 L |

## 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **United States (USA)**
- **SARA**

· **Section 302 (extremely hazardous substances):**

None of the ingredients are listed.

· **Section 355 (extremely hazardous substances):**

None of the ingredients are listed.

· **Section 313 (Specific toxic chemical listings):**

None of the ingredients are listed.

· **TSCA (Toxic Substances Control Act)**

All ingredients are listed.

· **Proposition 65 (California)**

· **Chemicals known to cause cancer:**

Ethanol - listing refers specifically to alcoholic beverage consumption and is not applicable for product.

All ingredients are listed.

· **Chemicals known to cause developmental toxicity for females:**

None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity for males:**

None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity:**

Ethanol - listing refers specifically to alcoholic beverage consumption and is not applicable for product.

All ingredients are listed.

· **EPA (Environmental Protection Agency):**

None of the ingredients are listed.

· **IARC (International Agency for Research on Cancer):**

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64-17-5	Ethanol	1
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· **Canadian Domestic Substances List (DSL) (Substances not listed.):**

All ingredients are listed.

## 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Abbreviations and acronyms:**

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bio-accumulable, Toxic

vPvB: very Persistent and very Bioaccumulative

OSHA: Occupational Safety & Health Administration

Flam. Liq. 2: Flammable liquids – Category 2

Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

· **Sources**

Website, European Chemicals Agency (echa.europa.eu)

Website, US EPA Substance Registry Services (ofmpub.epa.gov/sor internet/registry/substreg/home/overview/home.do)

Website, Chemical Abstracts Registry, American Chemical Society (www.cas.org)

Patty's Industrial Hygiene, 6th ed., Rose, Vernon, ed. ISBN: 978-0-470-07488-6

Casarett and Doull's Toxicology: The Basic Science of Poisons, 8th Ed., Klaasen, Curtis D., ed., ISBN: 978-0-07-176923-5.

Safety Data Sheets, Individual Manufacturers

SDS Prepared by:

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Website: www.chemtelinc.com

# Safety Data Sheet

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: June 13, 2019


## 1 Identification

- **Product identifier**
- **Trade name: Sulfuric Acid, 50% v/v (1:1)**
- **Product code:** KEMSA1940-A
- **Recommended use and restriction on use**
- **Recommended use:** Laboratory chemicals
- **Restrictions on use:** No relevant information available.
- **Details of the supplier of the Safety Data Sheet**
- **Manufacturer/Supplier:**  
AquaPhoenix Scientific, Inc.  
860 Gitts Run Road  
Hanover, PA 17331  
Phone: (717)632-1291  
Toll-Free: (866)632-1291  
info@aquaphoenixsci.com
- **Distributor:**  
AquaPhoenix Scientific, Inc.  
860 Gitts Run Road  
Hanover, PA 17331  
(717) 632-1291
- **Emergency telephone number:**  
ChemTel Inc.  
(800)255-3924 (North America)  
+1 (813)248-0585 (International)

## 2 Hazard(s) identification

- **Classification of the substance or mixture**  
Met. Corr.1 H290 May be corrosive to metals.  
Skin Corr. 1A H314 Causes severe skin burns and eye damage.  
Eye Dam. 1 H318 Causes serious eye damage.

---

- **Label elements**
- **GHS label elements**  
The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms:**  
  
GHS05
- **Signal word:** Danger
- **Hazard statements:**  
H290 May be corrosive to metals.  
H314 Causes severe skin burns and eye damage.
- **Precautionary statements:**  
P234 Keep only in original container.  
P260 Do not breathe mist/vapors/spray.  
P264 Wash thoroughly after handling.

(Cont'd. on page 2)

# Safety Data Sheet

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

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**Trade name: Sulfuric Acid, 50% v/v (1:1)**

(Cont'd. of page 1)

- P280 Wear protective gloves/protective clothing/eye protection.
- P301+P330+P331 If swallowed: Rinse mouth. Do NOT induce vomiting.
- P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P310 Immediately call a poison center/doctor.
- P363 Wash contaminated clothing before reuse.
- P390 Absorb spillage to prevent material damage.
- P405 Store locked up.
- P406 Store in corrosive resistant container with a resistant inner liner.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Other hazards** There are no other hazards not otherwise classified that have been identified.

## 3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

· **Components:**

7732-18-5	Water	35%
7664-93-9	Sulfuric acid	65%
	Met. Corr. 1, H290; Skin Corr. 1A, H314; Eye Dam. 1, H318	

· **Additional information:**

For the listed ingredient(s), the identity and/or exact percentage(s) are being withheld as a trade secret.  
For the wording of the listed Hazard Statements, refer to section 16.

## 4 First-aid measures

· **Description of first aid measures**

· **After inhalation:** Supply fresh air; consult doctor in case of complaints.

· **After skin contact:**

Immediately remove any clothing soiled by the product.

Immediately rinse with water.

Seek immediate help for blistering or open wounds.

If skin irritation continues, consult a doctor.

· **After eye contact:**

Protect unharmed eye.

Remove contact lenses if worn.

Rinse opened eye for several minutes under running water. Then consult a doctor.

· **After swallowing:**

Rinse out mouth and then drink plenty of water.

Do not induce vomiting; immediately call for medical help.

· **Most important symptoms and effects, both acute and delayed:**

Strong caustic effect on skin and mucous membranes.

Gastric or intestinal disorders when ingested.

Eye damage.

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# Safety Data Sheet

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

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**Trade name: Sulfuric Acid, 50% v/v (1:1)**

(Cont'd. of page 2)

Acidosis

- **Danger:**  
 Danger of gastric perforation.  
 Causes serious eye damage.  
 Danger of impaired breathing.
- **Indication of any immediate medical attention and special treatment needed:**  
 Medical supervision for at least 48 hours.  
 If medical advice is needed, have product container or label at hand.

## 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
 The product is not flammable.  
 Use fire fighting measures that suit the environment.
- **For safety reasons unsuitable extinguishing agents:** None.
- **Special hazards arising from the substance or mixture**  
 During heating or in case of fire poisonous gases are produced.
- **Advice for firefighters**
- **Protective equipment:**  
 Wear self-contained respiratory protective device.  
 Wear fully protective suit.

## 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
 For large spills, use respiratory protective device against the effects of fumes/dust/aerosol.  
 Wear protective equipment. Keep unprotected persons away.  
 Ensure adequate ventilation.
- **Environmental precautions** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up**  
 Use limestone to neutralize and/or absorb spill.  
 Clean the affected area carefully; suitable cleaners are:  
 Warm water  
 Dispose of the collected material according to regulations.
- **Reference to other sections**  
 See Section 7 for information on safe handling.  
 See Section 8 for information on personal protection equipment.  
 See Section 13 for disposal information.

## 7 Handling and storage

- **Handling**
- **Precautions for safe handling:**  
 Avoid splashes or spray in enclosed areas.  
 Use only in well ventilated areas.  
 Avoid breathing mist, vapors, or spray.

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# Safety Data Sheet

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**Trade name: Sulfuric Acid, 50% v/v (1:1)**

(Cont'd. of page 3)

Avoid contact with the eyes and skin.  
Open and handle receptacle with care.

· **Conditions for safe storage, including any incompatibilities**

· **Requirements to be met by storerooms and receptacles:**

Store in cool, dry conditions in well sealed receptacles.

Store only in the original receptacle.

Unsuitable material for receptacle: steel.

Unsuitable material for receptacle: aluminium.

· **Information about storage in one common storage facility:**

Store away from foodstuffs.

Do not store together with alkalis (caustic solutions).

Store away from metals.

· **Specific end use(s)** No relevant information available.

## 8 Exposure controls/personal protection

· **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

**7664-93-9 Sulfuric acid**

PEL (USA)	Long-term value: 1 mg/m <sup>3</sup>
REL (USA)	Long-term value: 1 mg/m <sup>3</sup>
TLV (USA)	Long-term value: 0.2* mg/m <sup>3</sup> *as thoracic fraction
EL (Canada)	Long-term value: 0.2 mg/m <sup>3</sup> ACGIH A2; IARC 1
EV (Canada)	Long-term value: 0.2 mg/m <sup>3</sup>
LMPE (Mexico)	Long-term value: 0.2* mg/m <sup>3</sup> A2; *fracción torácica

· **Exposure controls**

· **General protective and hygienic measures:**

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

Do not inhale dust / smoke / mist.

· **Engineering controls:** Provide adequate ventilation.

· **Breathing equipment:** Use suitable respiratory protective device when high concentrations are present.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

· **Material of gloves**

Nitrile rubber, NBR

(Cont'd. on page 5)

# Safety Data Sheet

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

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**Trade name: Sulfuric Acid, 50% v/v (1:1)**

(Cont'd. of page 4)

Neoprene gloves  
Natural rubber, NR  
Laminated film gloves.

- **Not suitable are gloves made of the following materials:** PVA gloves
- **Eye protection:**



Safety glasses

- **Body protection:** Protective work clothing
- **Limitation and supervision of exposure into the environment**  
No relevant information available.
- **Risk management measures** No relevant information available.

## 9 Physical and chemical properties

### · Information on basic physical and chemical properties

#### · Appearance:

**Form:** Liquid  
**Color:** Colorless

· **Odor:** Characteristic

· **Odor threshold:** Not determined.

· **pH-value at 20 °C (68 °F):** <2.0

· **Melting point/Melting range:** Not determined.

· **Boiling point/Boiling range:** Not determined.

· **Flash point:** The product is not flammable.

· **Flammability (solid, gaseous):** Not applicable.

· **Auto-ignition temperature:** Not determined.

· **Decomposition temperature:** Not determined.

· **Danger of explosion:** Product does not present an explosion hazard.

#### · Explosion limits

**Lower:** Not determined.

**Upper:** Not determined.

· **Oxidizing properties:** Not determined.

· **Vapor pressure:** Not determined.

#### · Density:

**Relative density:** 1.4-1.5

**Vapor density:** Not determined.

**Evaporation rate:** Not determined.

#### · Solubility in / Miscibility with

**Water:** Fully miscible.

· **Partition coefficient (n-octanol/water):** Not determined.

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# Safety Data Sheet

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**Trade name: Sulfuric Acid, 50% v/v (1:1)**

(Cont'd. of page 5)

- **Viscosity**
  - Dynamic:** Not determined.
  - Kinematic:** Not determined.
- **Other information** No relevant information available.

## 10 Stability and reactivity

- **Reactivity:** No relevant information available.
- **Chemical stability:** Stable under normal temperatures and pressures.
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used and stored according to specifications.
- **Possibility of hazardous reactions**  
Toxic fumes may be released if heated above the decomposition point.  
Corrosive action on metals.  
Reacts with certain metals.  
Reacts with alkali (lyes).  
Reacts with oxidizing agents.
- **Conditions to avoid** No relevant information available.
- **Incompatible materials**  
Metals.  
Alkalis.  
Strong oxidizers such as perchlorates, bromates, and nitrates; hydrofluoric acid.
- **Hazardous decomposition products** Sulfur oxides (SO<sub>x</sub>)

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:** Based on available data, the classification criteria are not met.
- **LD/LC50 values that are relevant for classification:** None.
- **Primary irritant effect:**
- **On the skin:** Strong caustic effect on skin and mucous membranes.
- **On the eye:** Strong caustic effect.
- **Sensitization:** Based on available data, the classification criteria are not met.

### · IARC (International Agency for Research on Cancer):

None of the ingredients are listed.

### · NTP (National Toxicology Program):

7664-93-9 | Sulfuric acid

K

### · OSHA-Ca (Occupational Safety & Health Administration):

None of the ingredients are listed.

### · Probable route(s) of exposure:

Ingestion.  
Inhalation.  
Eye contact.  
Skin contact.

- **Germ cell mutagenicity:** Based on available data, the classification criteria are not met.

(Cont'd. on page 7)

# Safety Data Sheet

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

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**Trade name: Sulfuric Acid, 50% v/v (1:1)**

(Cont'd. of page 6)

- **Carcinogenicity:** Based on available data, the classification criteria are not met.
- **Reproductive toxicity:** Based on available data, the classification criteria are not met.
- **STOT-single exposure:** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure:** Based on available data, the classification criteria are not met.
- **Aspiration hazard:** Based on available data, the classification criteria are not met.

## 12 Ecological information

- **Toxicity**
- **Aquatic toxicity** No relevant information available.
- **Persistence and degradability** No relevant information available.
- **Bioaccumulative potential:** No relevant information available.
- **Mobility in soil:** No relevant information available.
- **Additional ecological information**
- **General notes:**  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.  
Rinse off of bigger amounts into drains or the aquatic environment may lead to decreased pH-values. A low pH-value harms aquatic organisms. If the dilution of the use-level pH-value is considerably increased after use, the aqueous waste, emptied into drains, is only low water-dangerous.
- **Other adverse effects** No relevant information available.

## 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
Dilute concentrate with water and neutralize afterwards with suitable material (lime or chalk). The formed salts are inert and pose little hazard.  
The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes.
- **Uncleaned packagings**
- **Recommendation:** Disposal must be made according to official regulations.

## 14 Transport information

- |                                       |                |
|---------------------------------------|----------------|
| · <b>UN-Number</b>                    |                |
| · <b>DOT, ADR/RID/ADN, IMDG, IATA</b> | UN1830         |
| · <b>UN proper shipping name</b>      |                |
| · <b>DOT</b>                          | Sulfuric acid  |
| · <b>ADR/RID/ADN, IMDG</b>            | SULPHURIC ACID |
| · <b>IATA</b>                         | Sulphuric acid |
| · <b>Transport hazard class(es)</b>   |                |

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# Safety Data Sheet

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Trade name: Sulfuric Acid, 50% v/v (1:1)

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· DOT



· Class 8  
· Label 8

· ADR/RID/ADN



· Class 8 (C1)  
· Label 8

· IMDG, IATA



· Class 8  
· Label 8

· Packing group

· DOT, ADR/RID/ADN, IMDG, IATA II

· Environmental hazards

· Marine pollutant: No

· Special precautions for user

Warning: Corrosive substances

· Danger code (Kemler): 80

· EMS Number: F-A, S-B

· Segregation groups Acids

· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable.

· Transport/Additional information:

· DOT

· Quantity limitations On passenger aircraft/rail: 5 L  
On cargo aircraft only: 60 L

· Hazardous substance: 1000 lbs, 454 kg

## 15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- United States (USA)
- SARA

(Cont'd. on page 9)

# Safety Data Sheet

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: June 13, 2019

**Trade name: Sulfuric Acid, 50% v/v (1:1)**

(Cont'd. of page 8)

· **Section 302 (extremely hazardous substances):**

None of the ingredients are listed.

· **Section 355 (extremely hazardous substances):**

7664-93-9 | Sulfuric acid

· **Section 313 (Specific toxic chemical listings):**

7664-93-9 | Sulfuric acid

· **TSCA (Toxic Substances Control Act)**

All ingredients are listed or exempt.

· **Proposition 65 (California)**

· **Chemicals known to cause cancer:**

None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity for females:**

None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity for males:**

None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients are listed.

· **EPA (Environmental Protection Agency):**

None of the ingredients are listed.

· **IARC (International Agency for Research on Cancer):**

None of the ingredients are listed.

· **Canadian Domestic Substances List (DSL):**

None of the ingredients are listed.

## 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Abbreviations and acronyms:**

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

OSHA: Occupational Safety & Health Administration

Met. Corr. 1: Corrosive to metals – Category 1

Skin Corr. 1A: Skin corrosion/irritation – Category 1A

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

· **Sources**

Website, European Chemicals Agency ([echa.europa.eu](http://echa.europa.eu))

Website, US EPA Substance Registry Services ([ofmpub.epa.gov/sorinternet/registry/substreg/home/overview/home.do](http://ofmpub.epa.gov/sorinternet/registry/substreg/home/overview/home.do))

Website, Chemical Abstracts Registry, American Chemical Society ([www.cas.org](http://www.cas.org))

Patty's Industrial Hygiene, 6th ed., Rose, Vernon, ed. ISBN: 978-0-470-07488-6

(Cont'd. on page 10)

## Safety Data Sheet

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: June 13, 2019

**Trade name: Sulfuric Acid, 50% v/v (1:1)**

(Cont'd. of page 9)

Casarett and Doull's Toxicology: The Basic Science of Poisons, 8th Ed., Klaasen, Curtis D., ed., ISBN: 978-0-07-176923-5.

Safety Data Sheets, Individual Manufacturers

SDS Prepared by:

ChemTel Inc.

1305 North Florida Avenue

Tampa, Florida USA 33602-2902

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Website: [www.chemtelinc.com](http://www.chemtelinc.com)

# Safety Data Sheet

acc. to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Printing date: March 11, 2019

Revision: March 04, 2019

## 1 Identification

- **Product identifier**
- **Trade name:** Sodium Chloride, ACS
- **Product code:** KEMSC1010-12G
- **CAS Number:**  
7647-14-5
- **Recommended use and restriction on use**
- **Recommended use:** Laboratory chemicals
- **Restrictions on use:** No relevant information available.
- **Details of the supplier of the Safety Data Sheet**
- **Manufacturer/Supplier:**  
AquaPhoenix Scientific, Inc.  
860 Gitts Run Road  
Hanover, PA 17331  
Phone: (717)632-1291  
Toll-Free: (866)632-1291  
info@aquaphoenixsci.com
- **Distributor:**  
AquaPhoenix Scientific, Inc.  
860 Gitts Run Road  
Hanover, PA 17331  
(717) 632-1291
- **Emergency telephone number:**  
ChemTel Inc.  
(800)255-3924 (North America)  
+1 (813)248-0585 (International)

## 2 Hazard(s) identification

- **Classification of the substance or mixture**  
The substance is not classified as hazardous according to the Globally Harmonized System (GHS).
- **Label elements**  
The product is not classified as hazardous according to OSHA GHS regulations within the United States.
- **GHS label elements** Not regulated.
- **Hazard pictograms:** None.
- **Signal word:** None
- **Hazard statements:** None.
- **Precautionary statements:** None.
- **Other hazards** There are no other hazards not otherwise classified that have been identified.

## 3 Composition/information on ingredients

- **Chemical characterization: Substances**
- **CAS No. Description**  
7647-14-5 Sodium chloride

(Cont'd. on page 2)

# Safety Data Sheet

acc. to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Printing date: March 11, 2019

Revision: March 04, 2019

**Trade name: Sodium Chloride, ACS**

(Cont'd. of page 1)

## 4 First-aid measures

- **Description of first aid measures**
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:**  
Brush off loose particles from skin.  
Rinse with warm water.  
If skin irritation is experienced, consult a doctor.
- **After eye contact:**  
Remove contact lenses if worn.  
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:**  
Rinse out mouth and then drink plenty of water.  
Seek immediate medical advice.
- **Most important symptoms and effects, both acute and delayed:**  
Mechanical irritation to eyes.  
Gastric or intestinal disorders when ingested.
- **Danger:** No relevant information available.
- **Indication of any immediate medical attention and special treatment needed:**  
No relevant information available.

## 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **For safety reasons unsuitable extinguishing agents:** No relevant information available.
- **Special hazards arising from the substance or mixture**  
Formation of toxic gases is possible during heating or in case of fire.
- **Advice for firefighters**
- **Protective equipment:**  
Wear self-contained respiratory protective device.  
Wear fully protective suit.

## 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Ensure adequate ventilation.
- **Environmental precautions** No special measures required.
- **Methods and material for containment and cleaning up**  
Pick up mechanically.  
Sweep up and place into an appropriate container.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

(Cont'd. on page 3)

# Safety Data Sheet

acc. to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Printing date: March 11, 2019

Revision: March 04, 2019

**Trade name: Sodium Chloride, ACS**

(Cont'd. of page 2)

## 7 Handling and storage

- **Handling**
- **Precautions for safe handling:** No special measures required.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:**  
No relevant information available.  
Do not store together with acids.
- **Further information about storage conditions:**  
Store in dry conditions.  
This product is hygroscopic.  
Keep containers tightly sealed.
- **Specific end use(s)** No relevant information available.

## 8 Exposure controls/personal protection

- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**  
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Exposure controls**
- **General protective and hygienic measures:**  
The usual precautionary measures for handling chemicals should be followed.  
Keep away from foodstuffs, beverages and feed.
- **Engineering controls:** No relevant information available.
- **Breathing equipment:** Not required under normal conditions of use.
- **Protection of hands:** Gloves not required under normal conditions of use.
- **Eye protection:**



Safety glasses

Follow relevant national guidelines concerning the use of protective eyewear.

- **Body protection:** Not required under normal conditions of use.
- **Limitation and supervision of exposure into the environment** No special requirements.
- **Risk management measures** No special requirements.

## 9 Physical and chemical properties

- **Information on basic physical and chemical properties**
- **Appearance:**

<b>Form:</b>	Crystalline powder
<b>Color:</b>	White

(Cont'd. on page 4)



# Safety Data Sheet

acc. to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Printing date: March 11, 2019

Revision: March 04, 2019

**Trade name: Sodium Chloride, ACS**

(Cont'd. of page 3)

· <b>Odor:</b>	Odorless
· <b>Odor threshold:</b>	Not determined.
· <b>pH-value:</b>	Not applicable.
· <b>Melting point/Melting range:</b>	801 °C (1473.8 °F)
· <b>Boiling point/Boiling range:</b>	1461 °C (2661.8 °F)
· <b>Flash point:</b>	The product is not flammable.
· <b>Flammability (solid, gaseous):</b>	Product is not flammable.
· <b>Auto-ignition temperature:</b>	Not determined.
· <b>Decomposition temperature:</b>	Not determined.
· <b>Danger of explosion:</b>	Product does not present an explosion hazard.
· <b>Explosion limits</b>	
<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.
· <b>Oxidizing properties:</b>	Non-oxidizing.
· <b>Vapor pressure:</b>	Not determined.
· <b>Density at 20 °C (68 °F):</b>	2.16 g/cm <sup>3</sup> (18.03 lbs/gal)
· <b>Relative density:</b>	Not determined.
· <b>Vapor density:</b>	Not applicable.
· <b>Evaporation rate:</b>	Not applicable.
· <b>Solubility in / Miscibility with Water:</b>	Easily soluble.
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity</b>	
<b>Dynamic:</b>	Not applicable.
<b>Kinematic:</b>	Not applicable.
· <b>Other information</b>	No relevant information available.

## 10 Stability and reactivity

- **Reactivity:** No relevant information available.
- **Chemical stability:** Stable under normal temperatures and pressures.
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used and stored according to specifications.
- **Possibility of hazardous reactions**  
Reacts with strong acids.  
Toxic fumes may be released if heated above the decomposition point.
- **Conditions to avoid** No relevant information available.
- **Incompatible materials** No relevant information available.
- **Hazardous decomposition products**  
Under fire conditions only:  
Chlorine compounds

(Cont'd. on page 5)

# Safety Data Sheet

acc. to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Printing date: March 11, 2019

Revision: March 04, 2019

**Trade name: Sodium Chloride, ACS**

(Cont'd. of page 4)

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:** Based on available data, the classification criteria are not met.
- **LD/LC50 values that are relevant for classification:** None.
- **Primary irritant effect:**
- **On the skin:** Based on available data, the classification criteria are not met.
- **On the eye:** Based on available data, the classification criteria are not met.
- **Sensitization:** Based on available data, the classification criteria are not met.

- **IARC (International Agency for Research on Cancer):**

Substance is not listed.

- **NTP (National Toxicology Program):**

Substance is not listed.

- **OSHA-Ca (Occupational Safety & Health Administration):**

Substance is not listed.

- **Probable route(s) of exposure:**

Ingestion.

Inhalation.

Eye contact.

Skin contact.

- **Acute effects (acute toxicity, irritation and corrosivity):** No relevant information available.
- **Repeated dose toxicity:** No relevant information available.
- **Germ cell mutagenicity:** Based on available data, the classification criteria are not met.
- **Carcinogenicity:** Based on available data, the classification criteria are not met.
- **Reproductive toxicity:** Based on available data, the classification criteria are not met.
- **STOT-single exposure:** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure:** Based on available data, the classification criteria are not met.
- **Aspiration hazard:** Based on available data, the classification criteria are not met.

## 12 Ecological information

- **Toxicity**
- **Aquatic toxicity** No relevant information available.
- **Persistence and degradability** No relevant information available.
- **Bioaccumulative potential:** No relevant information available.
- **Mobility in soil:** No relevant information available.
- **Additional ecological information**
- **General notes:**  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No relevant information available.

(Cont'd. on page 6)

# Safety Data Sheet

acc. to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Printing date: March 11, 2019

Revision: March 04, 2019

**Trade name: Sodium Chloride, ACS**

(Cont'd. of page 5)

## 13 Disposal considerations

- **Waste treatment methods**

- **Recommendation:**

Smaller quantities can be disposed of with household waste.

The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes.

- **Uncleaned packagings**

- **Recommendation:** Disposal must be made according to official regulations.

## 14 Transport information

- **UN-Number**

- **DOT, ADR/RID/ADN, IMDG, IATA** Not regulated.

- **UN proper shipping name**

- **DOT, ADR/RID/ADN, IMDG, IATA** Not regulated.

- **Transport hazard class(es)**

- **DOT, ADR/RID/ADN, IMDG, IATA**

- **Class** Not regulated.

- **Packing group**

- **DOT, ADR/RID/ADN, IMDG, IATA** Not regulated.

- **Environmental hazards**

Not applicable.

- **Special precautions for user**

Not applicable.

- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable.

## 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**

- **United States (USA)**

- **SARA**

- **Section 302 (extremely hazardous substances):**

Substance is not listed.

- **Section 355 (extremely hazardous substances):**

Substance is not listed.

- **Section 313 (Specific toxic chemical listings):**

Substance is not listed.

(Cont'd. on page 7)

# Safety Data Sheet

acc. to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Printing date: March 11, 2019

Revision: March 04, 2019

**Trade name: Sodium Chloride, ACS**

(Cont'd. of page 6)

· **TSCA (Toxic Substances Control Act)**

Substance is listed.

· **Proposition 65 (California)**

· **Chemicals known to cause cancer:**

Substance is not listed.

· **Chemicals known to cause developmental toxicity for females:**

Substance is not listed.

· **Chemicals known to cause developmental toxicity for males:**

Substance is not listed.

· **Chemicals known to cause developmental toxicity:**

Substance is not listed.

· **EPA (Environmental Protection Agency):**

Substance is not listed.

· **IARC (International Agency for Research on Cancer):**

Substance is not listed.

· **Canadian Domestic Substances List (DSL) (Substances not listed.):**

Substance is listed.

## 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Abbreviations and acronyms:**

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bio-accumulable, Toxic

vPvB: very Persistent and very Bioaccumulative

OSHA: Occupational Safety & Health Administration

· **Sources**

Website, European Chemicals Agency ([echa.europa.eu](http://echa.europa.eu))

Website, US EPA Substance Registry Services ([ofmpub.epa.gov/sorinternet/registry/substreg/home/overview/home.do](http://ofmpub.epa.gov/sorinternet/registry/substreg/home/overview/home.do))

Website, Chemical Abstracts Registry, American Chemical Society ([www.cas.org](http://www.cas.org))

Patty's Industrial Hygiene, 6th ed., Rose, Vernon, ed. ISBN: 978-0-470-07488-6

Casarett and Doull's Toxicology: The Basic Science of Poisons, 8th Ed., Klaasen, Curtis D., ed., ISBN: 978-0-07-176923-5.

Safety Data Sheets, Individual Manufacturers

SDS Prepared by:

ChemTel Inc.

1305 North Florida Avenue

Tampa, Florida USA 33602-2902

(Cont'd. on page 8)

## Safety Data Sheet

acc. to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Printing date: March 11, 2019

Revision: March 04, 2019

**Trade name: Sodium Chloride, ACS**

(Cont'd. of page 7)

Toll Free North America 1-888-255-3924 Intl. +01 813-248-0573  
Website: [www.chemtelinc.com](http://www.chemtelinc.com)

## Safety Data Sheet

According to OSHA Hazard Communication Standard, 29 CFR 1910.1200

**Initial preparation date:** 04.24.2017

Page 1 of 8

### Sodium Hydroxide, 6.0M

#### SECTION 1: Identification

##### Product identifier

**Product name:** Sodium Hydroxide, 6.0M

**Product code:** KEMSH6310-AA

##### Recommended use of the product and restriction on use

**Relevant identified uses:** Laboratory Chemicals

**Uses advised against:** Not determined or not applicable.

**Reasons why uses advised against:** Not determined or not applicable.

##### Manufacturer or supplier details

<b>Manufacturer:</b>	<b>Supplier:</b>
<b>United States</b>	<b>United States</b>
AquaPhoenix Scientific	AquaPhoenix Scientific Inc.
860 Gitts Run Road	860 Gitts Run Road
Hanover	Hanover
PA 17331	PA 17331
(717) 632-1291	(717) 632-1291

##### Emergency telephone number:

**United States**

Emergency Telephone No.: 800-255-3924

#### SECTION 2: Hazard(s) identification

##### GHS classification:

Serious eye damage, category 1

Skin corrosion, category 1A

##### Label elements

###### Hazard pictograms:



**Signal word:** Danger

##### Hazard statements:

H318 Causes serious eye damage.

H314 Causes severe skin burns and eye damage.

##### Precautionary statements:

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P260 Do not breathe dust/fume/gas/mist/vapors/spray.

P264 Wash skin thoroughly after handling.

P305+P351+P338+P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.

P321 Spill or leak handling: See label for appropriate first aid instructions on this label).

P363 Wipe up carefully. Avoid breathing dust. Wash clothing before reuse.

P304+P340 If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a poison center or doctor/physician.

# Safety Data Sheet

According to OSHA Hazard Communication Standard, 29 CFR 1910.1200

Initial preparation date: 04.24.2017

Page 2 of 8

## Sodium Hydroxide, 6.0M

P301+P330+P331+P310 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician.

P303+P361+P353+P310 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately call a POISON CENTER or doctor/physician.

P405 Store locked up.

P501 Dispose of contents and container as instructed in Section 13.

**Hazards not otherwise classified:** None

### SECTION 3: Composition/information on ingredients

Identification	Name	Weight %
CAS number: 1310-73-2	Sodium hydroxide	<24
CAS number: 7732-18-5	Water	>76

**Additional Information:** None

### SECTION 4: First aid measures

#### Description of first aid measures

##### General notes:

Not determined or not applicable.

##### After inhalation:

Move exposed individual to fresh air

Loosen clothing as necessary and position individual in a comfortable position

Maintain an unobstructed airway

Immediately call a POISON CONTROL CENTER or seek medical attention

##### After skin contact:

Immediately remove all contaminated clothing

Wash affected area with soap and water

Immediately call a POISON CONTROL CENTER or seek medical attention

##### After eye contact:

Rinse/flush exposed eye(s) gently using water for 15-20 minutes

Remove contact lens(es) if able to do so during rinsing

Immediately call a POISON CONTROL CENTER or seek medical attention

##### After swallowing:

Immediately call a POISON CONTROL CENTER or seek medical attention

Do not induce vomiting

Rinse mouth and then drink plenty of water

#### Most important symptoms and effects, both acute and delayed

##### Acute symptoms and effects:

Not determined or not applicable.

##### Delayed symptoms and effects:

Not determined or not applicable.

#### Immediate medical attention and special treatment

##### Specific treatment:

Not determined or not applicable.

# Safety Data Sheet

According to OSHA Hazard Communication Standard, 29 CFR 1910.1200

Initial preparation date: 04.24.2017

Page 3 of 8

## Sodium Hydroxide, 6.0M

### Notes for the doctor:

Not determined or not applicable.

## SECTION 5: Firefighting measures

### Extinguishing media

#### Suitable extinguishing media:

Use appropriate fire suppression agents for adjacent combustible materials or sources of ignition

#### Unsuitable extinguishing media:

Not determined or not applicable.

### Specific hazards during fire-fighting:

Thermal decomposition can lead to release of irritating gases and vapors

### Special protective equipment for firefighters:

Wear protective eye wear, gloves and clothing

Refer to Section 8

Use typical firefighting equipment, self-contained breathing apparatus, special tightly sealed suit

### Special precautions:

Heating causes a rise in pressure, risk of bursting and combustion

Shut off sources of ignition

Carbon monoxide and carbon dioxide may form upon combustion

## SECTION 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures:

Ensure adequate ventilation

Ensure air handling systems are operational

Wear protective eye wear, gloves and clothing

### Environmental precautions:

Should not be released into the environment

Prevent from reaching drains, sewer or waterway

### Methods and material for containment and cleaning up:

Absorb with non-combustible liquid-binding material (sand, diatomaceous earth (clay), acid binders, universal binders)

Dispose of contents / container in accordance with local regulations

### Reference to other sections:

Not determined or not applicable.

## SECTION 7: Handling and storage

### Precautions for safe handling:

Do not eat, drink, smoke or use personal products when handling chemical substances.

Avoid breathing mist or vapor.

Use only with adequate ventilation.

### Conditions for safe storage, including any incompatibilities:

Store in a cool, well-ventilated area.

Store away from foodstuffs.

## SECTION 8: Exposure controls/personal protection

Only those substances with limit values have been included below.

### Occupational Exposure limit values:



# Safety Data Sheet

According to OSHA Hazard Communication Standard, 29 CFR 1910.1200

Initial preparation date: 04.24.2017

Page 4 of 8

## Sodium Hydroxide, 6.0M

Country (Legal Basis)	Substance	Identifier	Permissible concentration
ACGIH	Sodium hydroxide	1310-73-2	ACGIH TLV C 2.0 mg/m <sup>3</sup>
United States (OSHA)	Sodium hydroxide	1310-73-2	OSHA PEL TWA 2.0 mg/m <sup>3</sup>
NIOSH	Sodium hydroxide	1310-73-2	NIOSH REL C 2.0 mg/m <sup>3</sup>
	Sodium hydroxide	1310-73-2	NIOSH IDLH 10.0 mg/m <sup>3</sup>

### Biological limit values:

No biological exposure limits noted for the ingredient(s).

### Information on monitoring procedures:

Not determined or not applicable.

### Appropriate engineering controls:

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use or handling.

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor and mists below the applicable workplace exposure limits (Occupational Exposure Limits-OELs) indicated above.

### Personal protection equipment

#### Eye and face protection:

Safety goggles or glasses, or appropriate eye protection.

#### Skin and body protection:

Select glove material impermeable and resistant to the substance.

#### Respiratory protection:

When necessary, use NIOSH-approved breathing equipment.

### General hygienic measures:

Wash hands before breaks and at the end of work.

Avoid contact with skin, eyes and clothing.

Perform routine housekeeping.

Wash contaminated clothing before reusing.

## SECTION 9: Physical and chemical properties

### Information on basic physical and chemical properties

Appearance	Clear, colorless liquid
Odor	Odorless
Odor threshold	Not available
pH	Alkaline
Melting point/freezing point	Approx. 0°C
Initial boiling point/range	Approx. 100°C
Flash point (closed cup)	Not available
Evaporation rate	Not available
Flammability (solid, gas)	Not available
Upper flammability/explosive limit	Not available
Lower flammability/explosive limit	Not available
Vapor pressure	14 mmHg at 20°C
Vapor density	>1
Density	Not available
Relative density	Approx. 1

# Safety Data Sheet

According to OSHA Hazard Communication Standard, 29 CFR 1910.1200

Initial preparation date: 04.24.2017

Page 5 of 8

## Sodium Hydroxide, 6.0M

<b>Solubilities</b>	Not determined or not available.
<b>Partition coefficient (n-octanol/water)</b>	Not available
<b>Auto/Self-ignition temperature</b>	Not available
<b>Decomposition temperature</b>	Not available
<b>Dynamic viscosity</b>	Not available
<b>Kinematic viscosity</b>	Not available
<b>Explosive properties</b>	Not determined or not available.
<b>Oxidizing properties</b>	Not determined or not available.

### Other information

#### SECTION 10: Stability and reactivity

**Reactivity:**

Does not react under normal conditions of use and storage.

**Chemical stability:**

Stable under normal conditions of use and storage.

**Possibility of hazardous reactions:**

None under normal conditions of use and storage.

**Conditions to avoid:**

None known.

**Incompatible materials:**

None known.

**Hazardous decomposition products:**

None known.

#### SECTION 11: Toxicological information

**Acute toxicity**

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

**Skin corrosion/irritation**

**Assessment:** Causes severe skin burns and eye damage

**Product data:** No data available.

**Substance data:**

Name	Result
Sodium hydroxide	Causes severe skin burns and eye damage.

**Serious eye damage/irritation**

**Assessment:** Causes serious eye damage

**Product data:** No data available.

**Substance data:** No data available.

**Respiratory or skin sensitization**

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

**Carcinogenicity**

**Assessment:** Based on available data, the classification criteria are not met.

## Safety Data Sheet

According to OSHA Hazard Communication Standard, 29 CFR 1910.1200

Initial preparation date: 04.24.2017

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### Sodium Hydroxide, 6.0M

**Product data:** No data available.

**Substance data:** No data available.

**International Agency for Research on Cancer (IARC):** None of the ingredients are listed.

**National Toxicology Program (NTP):** None of the ingredients are listed.

#### Germ cell mutagenicity

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

#### Reproductive toxicity

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

#### Specific target organ toxicity (single exposure)

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

#### Specific target organ toxicity (repeated exposure)

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

#### Aspiration toxicity

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

**Information on likely routes of exposure:** No data available.

**Symptoms related to the physical, chemical and toxicological characteristics:** No data available.

**Other information:** No data available.

### SECTION 12: Ecological information

#### Acute (short-term) toxicity

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

#### Chronic (long-term) toxicity

**Product data:** No data available.

**Substance data:** No data available.

#### Persistence and degradability

**Product data:** No data available.

**Substance data:** No data available.

#### Bioaccumulative potential

**Product data:** No data available.

**Substance data:** No data available.

#### Mobility in soil

**Product data:** No data available.

**Substance data:** No data available.

**Other adverse effects:** No data available.

### SECTION 13: Disposal considerations

# Safety Data Sheet

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## Sodium Hydroxide, 6.0M

### Disposal methods:


It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11)

## SECTION 14: Transport information


### United States Transportation of dangerous goods (49 CFR DOT)

UN number	UN1824
UN proper shipping name	Sodium Hydroxide Solution
UN transport hazard class(es)	8 
Packing group	II
Environmental hazards	None
Special precautions for user	None

### International Maritime Dangerous Goods (IMDG)

UN number	UN1824
UN proper shipping name	Sodium Hydroxide Solution
UN transport hazard class(es)	8 
Packing group	II
Environmental hazards	None
Special precautions for user	None

### International Air Transport Association Dangerous Goods Regulations (IATA-DGR)

UN number	UN1824
UN proper shipping name	Sodium Hydroxide Solution
UN transport hazard class(es)	8 
Packing group	II
Environmental hazards	None
Special precautions for user	None

### Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Bulk Name	None
Ship type	None
Pollution category	None

## SECTION 15: Regulatory information

### United States regulations

#### Inventory listing (TSCA):

7732-18-5	Water	Listed
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## Sodium Hydroxide, 6.0M

1310-73-2	Sodium hydroxide	Listed
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**Significant New Use Rule (TSCA Section 5):** Not determined.

**Export notification under TSCA Section 12(b):** Not determined.

**SARA Section 311/312 hazards:**

Acute	Chronic	Fire	Pressure	Reactive
No	No	No	No	No

**SARA Section 302 extremely hazardous substances:** Not determined.

**SARA Section 313 toxic chemicals:** Not determined.

**CERCLA:**

1310-73-2	Sodium hydroxide	Listed	1000
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**RCRA:** Not determined.

**Section 112(r) of the Clean Air Act (CAA):** Not determined.

**Massachusetts Right to Know:**

1310-73-2	Sodium hydroxide	Listed
7732-18-5	Water	Not Listed

**New Jersey Right to Know:**

1310-73-2	Sodium hydroxide	Listed
7732-18-5	Water	Not Listed

**New York Right to Know:**

1310-73-2	Sodium hydroxide	Listed
7732-18-5	Water	Not Listed

**Pennsylvania Right to Know:**

1310-73-2	Sodium hydroxide	Listed
7732-18-5	Water	Not Listed

**California Proposition 65:** Not determined.

## SECTION 16: Other information

**Abbreviations and Acronyms:** None

**Disclaimer:**

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations. The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations applicable to this material.

**NFPA:** 3-0-1

**HMIS:** 3-0-1

**Initial preparation date:** 04.24.2017

**End of Safety Data Sheet**

# Safety Data Sheet

acc. to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Printing date: March 19, 2019

Revision: March 19, 2019

## 1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
- **Trade name:** Silver Nitrate, 2M
- **Product code:** KEMSN3550-10ML
- **Recommended use and restriction on use**
- **Recommended use:** Laboratory chemicals
- **Restrictions on use:** No further relevant information available.
- **Details of the supplier of the Safety Data Sheet**
- **Manufacturer/Supplier:**  
AquaPhoenix Scientific, Inc.  
860 Gitts Run Road  
Hanover, PA 17331  
Phone: (717)632-1291  
Toll-Free: (866)632-1291  
info@aquaphoenixsci.com
- **Distributor:**  
AquaPhoenix Scientific, Inc.  
860 Gitts Run Road  
Hanover, PA 17331  
(717) 632-1291
- **Emergency telephone number:**  
ChemTel Inc.  
(800)255-3924 (North America)  
+1 (813)248-0585 (International)

## 2 Hazards identification

- **Classification of the substance or mixture**  
Ox. Liq. 2    H272 May intensify fire; oxidiser.  
Met. Corr.1    H290 May be corrosive to metals.  
Skin Corr. 1B    H314 Causes severe skin burns and eye damage.  
Eye Dam. 1    H318 Causes serious eye damage.

### · Label elements

#### · GHS label elements

The product is classified and labelled according to the Globally Harmonised System (GHS).

#### · Hazard pictograms



GHS03 GHS05

- **Signal word** Danger
- **Hazard statements**  
H272 May intensify fire; oxidiser.  
H290 May be corrosive to metals.  
H314 Causes severe skin burns and eye damage.
- **Precautionary statements**  
P210                      Keep away from heat.

(Cont'd. on page 2)

# Safety Data Sheet

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**Trade name: Silver Nitrate, 2M**

(Cont'd. from page 1)

- P220 Keep/Store away from clothing/combustible materials.  
 P221 Take any precaution to avoid mixing with combustibles.  
 P234 Keep only in original container.  
 P260 Do not breathe mist/vapours/spray.  
 P264 Wash thoroughly after handling.  
 P280 Wear protective gloves/protective clothing/eye protection/face protection.  
 P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.  
 P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.  
 P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P310 Immediately call a POISON CENTER/doctor.  
 P363 Wash contaminated clothing before reuse.  
 P370+P378 In case of fire: Use for extinction: Water spray.  
 P390 Absorb spillage to prevent material damage.  
 P405 Store locked up.  
 P406 Store in corrosive resistant container /container with a corrosion resistant inner liner.  
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.



· **NFPA ratings (scale 0 - 4)** This substance possesses oxidizing properties.

· **Other hazards** There are no other hazards not otherwise classified that have been identified.

## 3 Composition/information on ingredients

· **Chemical characterisation: Mixtures**

· **Components:**

7761-88-8	silver nitrate	 Ox. Sol. 2, H272  Met. Corr.1, H290; Skin Corr. 1B, H314; Eye Dam. 1, H318	34%
7732-18-5	Water		66%

· **Additional information:**

For the listed ingredient(s), the identity and/or exact percentages are being withheld as a trade secret.

For the wording of the listed Hazard Statements refer to section 16.

## 4 First aid measures

· **Description of first aid measures**

· **General information:** Immediately remove any clothing soiled by the product.

· **After inhalation:** Supply fresh air; consult doctor in case of complaints.

· **After skin contact:**

Immediately rinse with water.

If skin irritation continues, consult a doctor.

Seek immediate medical help for blistering or open wounds.

· **After eye contact:**

Protect unharmed eye.

Remove contact lenses if worn.

(Cont'd. on page 3)

# Safety Data Sheet

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(Cont'd. from page 2)

Rinse opened eye for several minutes under running water. Then consult a doctor.

· **After swallowing:**

Rinse out mouth and then drink plenty of water.

Do not induce vomiting; call for medical help immediately.

· **Most important symptoms and effects, both acute and delayed**

Strong caustic effect on skin and mucous membranes.

Discoloration of skin.

Gastric or intestinal disorders when ingested.

· **Hazards:**

Danger of gastric perforation.

Causes serious eye damage.

· **Indication of any immediate medical attention and special treatment needed**

Medical supervision for at least 48 hours.

If medical advice is needed, have product container or label at hand.

## 5 Firefighting measures

· **Extinguishing media**

· **Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.

· **For safety reasons unsuitable extinguishing agents:** No further relevant information available.

· **Special hazards arising from the substance or mixture**

May intensify fire; oxidiser.

During heating or in case of fire poisonous gases are produced.

· **Advice for firefighters**

· **Protective equipment:**

Wear self-contained respiratory protective device.

Wear fully protective suit.

## 6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation

Take any precaution to avoid mixing with combustibles.

Wear protective equipment. Keep unprotected persons away.

For large spills, use respiratory protective device against the effects of fumes/dust/aerosol.

· **Environmental precautions**

Do not allow to enter sewers/ surface or ground water.

Inform respective authorities in case of seepage into water course or sewage system.

· **Methods and material for containment and cleaning up**

Use limestone to neutralize and/or absorb spill.

Substance/product is oxidising when dry.

Clean the affected area carefully; suitable cleaners are:

Warm water

Send for recovery or disposal in suitable receptacles.

· **Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

(Cont'd. on page 4)



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**Trade name: Silver Nitrate, 2M**

(Cont'd. from page 3)

## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
  - Avoid splashes or spray in enclosed areas.
  - Prevent formation of aerosols.
  - Use only in well ventilated areas.
  - Take any precaution to avoid mixing with combustibles.
- **Information about fire - and explosion protection:**
  - May intensify fire; oxidiser.
  - Substance/product can reduce the ignition temperature of flammable substances.
- **Conditions for safe storage, including any incompatibilities**
- **Requirements to be met by storerooms and receptacles:**
  - Store only in the original receptacle.
  - Due to photo-sensitivity, store product in brown-glass receptacles.
  - Unsuitable material for receptacle: aluminium.
  - Unsuitable material for receptacle: steel.
- **Information about storage in one common storage facility:**
  - Store away from foodstuffs.
  - Store away from flammable substances.
  - Do not store together with acids.
  - Store away from metals.
- **Further information about storage conditions:** Keep container tightly sealed.
- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

- **Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:**
  - The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Exposure controls**
- **General protective and hygienic measures:**
  - The usual precautionary measures are to be adhered to when handling chemicals.
  - Keep away from foodstuffs, beverages and feed.
  - Immediately remove all soiled and contaminated clothing.
  - Wash hands before breaks and at the end of work.
  - Avoid contact with the eyes and skin.
- **Engineering controls:** Provide adequate ventilation.
- **Respiratory protection:** Use suitable respiratory protective device when high concentrations are present.
- **Protection of hands:**



Protective gloves

- **Material of gloves**
  - Nitrile rubber, NBR
  - Neoprene gloves

(Cont'd. on page 5)

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**Trade name: Silver Nitrate, 2M**

(Cont'd. from page 4)

- Laminated film gloves.
- Natural rubber, NR
- Sensibilisation by the components in the glove materials is possible.
- **Not suitable are gloves made of the following materials:** PVA gloves
- **Eye protection:**  
Contact lenses should not be worn.



Safety glasses

Follow relevant national guidelines concerning the use of protective eyewear.

- **Body protection:** Protective work clothing
- **Limitation and supervision of exposure into the environment:**  
No further relevant information available.

## 9 Physical and chemical properties

### · Information on basic physical and chemical properties

#### · Appearance

- **Form:** Liquid
- **Colour:** According to product specification
- **Odour:** Characteristic
- **Odour threshold:** Not determined.

- **pH-value:** Not determined.
- **Melting point/freezing point:** Not determined.
- **Initial boiling point and boiling range:** >100 °C (>212 °F)

- **Flash point:** The product is not flammable.

- **Flammability (solid, gas):** Not applicable.

- **Auto/Self-ignition temperature:** Not determined.

- **Decomposition temperature:** Not determined.

- **Explosive properties:** Product does not present an explosion hazard.

#### · Explosion limits

- **Lower:** Not determined.
- **Upper:** Not determined.

- **Oxidising properties** Oxidizer

- **Vapour pressure:** Not determined.

- **Density at 20 °C (68 °F):** 2.0-2.1 g/cm<sup>3</sup> (16.69-17.52 lbs/gal)

- **Relative density:** Not determined.

- **Vapour density:** Not determined.

- **Evaporation rate:** Not determined.

- **Solubility in / Miscibility with water:** Fully miscible.

(Cont'd. on page 6)

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**Trade name: Silver Nitrate, 2M**

(Cont'd. from page 5)

- **Partition coefficient: n-octanol/water:** Not determined.
- **Viscosity**
  - Dynamic:** Not determined.
  - Kinematic:** Not determined.
- **Other information** No further relevant information available.

## 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability** Stable under normal temperatures and pressures.
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used and stored according to specifications.
- **Possibility of hazardous reactions**  
Acts as an oxidising agent on organic materials such as wood, paper and fats.  
Reacts with strong acids.  
Contact with acids releases toxic gases.  
Toxic fumes may be released if heated above the decomposition point.  
Reacts with certain metals.  
Corrosive action on metals.  
Reacts with reducing agents.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials**  
Flammable substances or mixtures.  
Acids.  
Metals.  
Reducing agents.
- **Hazardous decomposition products**  
Under fire conditions only:  
Nitrogen oxides  
Toxic metal oxide smoke

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:** Based on available data, the classification criteria are not met.
- **LD/LC50 values relevant for classification:** None.
- **Primary irritant effect**
- **Skin corrosion/irritation:** Strong caustic effect on skin and mucous membranes.
- **Serious eye damage/irritation:** Strong caustic effect.
- **Respiratory or skin sensitisation:** Based on available data, the classification criteria are not met.

· **IARC (International Agency for Research on Cancer):**

None of the ingredients are listed.

· **NTP (National Toxicology Program):**

None of the ingredients are listed.

(Cont'd. on page 7)

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**Trade name: Silver Nitrate, 2M**

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· **OSHA-Ca (Occupational Safety & Health Administration):**

None of the ingredients are listed.

· **Probable routes of exposure:**

Ingestion.  
Inhalation.  
Eye contact.  
Skin contact.

- **Acute effects (acute toxicity, irritation and corrosivity):** Causes severe skin burns and eye damage.
- **Repeated dose toxicity:** No further relevant information available.
- **Germ cell mutagenicity:** Based on available data, the classification criteria are not met.
- **Carcinogenicity:** Based on available data, the classification criteria are not met.
- **Reproductive toxicity:** Based on available data, the classification criteria are not met.
- **STOT-single exposure:** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure:** Based on available data, the classification criteria are not met.
- **Aspiration hazard:** Based on available data, the classification criteria are not met.

## 12 Ecological information

· **Toxicity**

- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.

· **Ecotoxicological effects:**

· **Remark:** Very toxic for fish

· **Additional ecological information:**

· **General notes:**

Do not allow product to reach ground water, water course or sewage system, even in small quantities.  
Very toxic for aquatic organisms

· **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

## 13 Disposal considerations

· **Waste treatment methods**

· **Recommendation**

The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes. Residual materials should be treated as hazardous.

· **Uncleaned packaging:**

- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

(Cont'd. on page 8)

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Trade name: Silver Nitrate, 2M

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## 14 Transport information

<ul style="list-style-type: none"> <li>· UN-Number</li> <li>· DOT, ADR/RID/ADN, IMDG, IATA</li> </ul>	<p>UN3264</p>
<ul style="list-style-type: none"> <li>· UN proper shipping name</li> <li>· DOT</li> <li>· ADR/RID/ADN</li> <li>· IMDG</li> <li>· IATA</li> </ul>	<p>Corrosive liquid, acidic, inorganic, n.o.s. (silver nitrate)  CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (SILVER NITRATE), ENVIRONMENTALLY HAZARDOUS  CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (SILVER NITRATE), MARINE POLLUTANT  CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (SILVER NITRATE)</p>
<ul style="list-style-type: none"> <li>· Transport hazard class(es)</li> <li>· DOT</li> </ul>	<p></p> <ul style="list-style-type: none"> <li>· Class</li> <li>· Label</li> </ul> <p>8 8</p>
<ul style="list-style-type: none"> <li>· ADR/RID/ADN</li> </ul>	<p></p> <ul style="list-style-type: none"> <li>· Class</li> <li>· Label</li> </ul> <p>8 (C9) 8</p>
<ul style="list-style-type: none"> <li>· IMDG</li> </ul>	<p></p> <ul style="list-style-type: none"> <li>· Class</li> <li>· Label</li> </ul> <p>8 8</p>
<ul style="list-style-type: none"> <li>· IATA</li> </ul>	<p></p> <ul style="list-style-type: none"> <li>· Class</li> <li>· Label</li> </ul> <p>8 8</p>
<ul style="list-style-type: none"> <li>· Packing group</li> <li>· DOT, ADR/RID/ADN, IMDG, IATA</li> </ul>	<p>II</p>
<ul style="list-style-type: none"> <li>· Environmental hazards:</li> </ul>	<p>Product contains environmentally hazardous substances: silver nitrate</p>

(Cont'd. on page 9)

# Safety Data Sheet

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**Trade name: Silver Nitrate, 2M**

(Cont'd. from page 8)

· <b>Marine pollutant:</b>	Symbol (fish and tree)
· <b>Special precautions for user</b>	Warning: Corrosive substances.
· <b>Danger code (Kemler):</b>	80
· <b>EMS Number:</b>	F-A,S-B
· <b>Segregation groups</b>	Acids
· <b>Transport in bulk according to Annex II of Marpol and the IBC Code</b>	Not applicable.
· <b>Transport/Additional information:</b>	
· <b>ADR/RID/ADN</b>	
· <b>Transport category</b>	2
· <b>Tunnel restriction code</b>	E

## 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **United States (USA)**
- **SARA**

· **Section 302 (extremely hazardous substances):**

None of the ingredients are listed.

· **Section 355 (extremely hazardous substances):**

None of the ingredients are listed.

· **Section 313 (Specific toxic chemical listings):**

7761-88-8 | silver nitrate

· **TSCA (Toxic Substances Control Act):**

All ingredients are listed.

· **Proposition 65 (California):**

· **Chemicals known to cause cancer:**

None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity for females:**

None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity for males:**

None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients are listed.

· **EPA (Environmental Protection Agency)**

None of the ingredients are listed.

· **IARC (International Agency for Research on Cancer)**

None of the ingredients are listed.

(Cont'd. on page 10)

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**Trade name: Silver Nitrate, 2M**

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· **Canadian Domestic Substances List (DSL) (Substances not listed)**

All ingredients are listed.

## 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Abbreviations and acronyms:**

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bio-accumulable, Toxic

vPvB: very Persistent and very Bioaccumulative

OSHA: Occupational Safety & Health Administration

Ox. Liq. 2: Oxidizing liquids – Category 2

Ox. Sol. 2: Oxidizing solids – Category 2

Met. Corr.1: Corrosive to metals – Category 1

Skin Corr. 1B: Skin corrosion/irritation – Category 1B

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

· **Sources**

Website, European Chemicals Agency (echa.europa.eu)

Website, US EPA Substance Registry Services (ofmpub.epa.gov/sor internet/registry/substreg/home/overview/home.do)

Website, Chemical Abstracts Registry, American Chemical Society (www.cas.org)

Patty's Industrial Hygiene, 6th ed., Rose, Vernon, ed. ISBN: 978-0-470-07488-6

Casarett and Doull's Toxicology: The Basic Science of Poisons, 8th Ed., Klaasen, Curtis D., ed., ISBN: 978-0-07-176923-5.

Safety Data Sheets, Individual Manufacturers

SDS Prepared by:

ChemTel Inc.

1305 North Florida Avenue

Tampa, Florida USA 33602-2902

Toll Free North America 1-888-255-3924 Intl. +01 813-248-0573

Website: www.chemtelinc.com

# Safety Data Sheet

According to OSHA Hazard Communication Standard, 29 CFR 1910.1200

Initial preparation date: 02.21.2018

Page 1 of 8

**Sodium Nitrate, ACS Grade**

## SECTION 1: Identification

### Product identifier

**Product name:** Sodium Nitrate, ACS Grade

**Product code:** KEMSN4000-25G

### Recommended use of the product and restriction on use

**Relevant identified uses:** Not determined or not applicable.

**Uses advised against:** Not determined or not applicable.

**Reasons why uses advised against:** Not determined or not applicable.

### Manufacturer or supplier details

**Manufacturer:**

**Supplier:**

AquaPhoenix Scientific  
860 Gitts Run Road  
Hanover  
PA 17331  
(717) 632-1291

AquaPhoenix Scientific Inc.  
860 Gitts Run Road  
Hanover  
PA 17331  
(717) 632-1291

### Emergency telephone number:

**United States**

Emergency Telephone No.: 800-255-3924

## SECTION 2: Hazard(s) identification

### GHS classification:

Oxidizing solids, category 2

Eye irritation, category 2A

### Label elements

**Hazard pictograms:**



**Signal word:** Danger

### Hazard statements:

H272 May intensify fire; oxidizer

H319 Causes serious eye irritation

### Precautionary statements:

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking

P220 Keep/Store away from clothing/combustible materials

P221 Take any precaution to avoid mixing with combustibles

P280 Wear protective gloves/protective clothing/eye protection/face protection

P264 Wash skin thoroughly after handling

P370+P378 In case of fire: Use agents recommended in section 5 for extinction

P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing

P501 Dispose of contents and container as instructed in Section 13



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## Sodium Nitrate, ACS Grade

Hazards not otherwise classified: None

### SECTION 3: Composition/information on ingredients

Identification	Name	Weight %
CAS number: 7631-99-4	Sodium Nitrate	>95

Additional Information: None

### SECTION 4: First aid measures

#### Description of first aid measures

##### General notes:

Not determined or not applicable.

##### After inhalation:

Loosen clothing as necessary and position individual in a comfortable position

Maintain an unobstructed airway

Get medical advice/attention if you feel unwell

##### After skin contact:

Rinse affected area with soap and water

If symptoms develop or persist, seek medical attention

##### After eye contact:

Rinse/flush exposed eye(s) gently using water for 15-20 minutes

If symptoms develop or persist, seek medical attention

Remove contact lens(es) if able to do so during rinsing

Seek medical attention if irritation persists or if concerned

##### After swallowing:

Rinse mouth thoroughly

Seek medical attention if irritation, discomfort, or vomiting persists

#### Most important symptoms and effects, both acute and delayed

##### Acute symptoms and effects:

Not determined or not applicable.

##### Delayed symptoms and effects:

Not determined or not applicable.

#### Immediate medical attention and special treatment

##### Specific treatment:

Not determined or not applicable.

##### Notes for the doctor:

Not determined or not applicable.

### SECTION 5: Firefighting measures

#### Extinguishing media

##### Suitable extinguishing media:

Use appropriate fire suppression agents for adjacent combustible materials or sources of ignition

##### Unsuitable extinguishing media:

Not determined or not applicable.

#### Specific hazards during fire-fighting:

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## Sodium Nitrate, ACS Grade

Thermal decomposition can lead to release of irritating gases and vapors  
Will release oxygen when heated, intensifying a fire

### Special protective equipment for firefighters:

Use typical firefighting equipment, self-contained breathing apparatus, special tightly sealed suit

### Special precautions:

Carbon monoxide and carbon dioxide may form upon combustion  
Heating causes a rise in pressure, risk of bursting and combustion

## SECTION 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures:

Ensure adequate ventilation  
Ensure air handling systems are operational  
Wear protective eye wear, gloves and clothing

### Environmental precautions:

Should not be released into the environment  
Prevent from reaching drains, sewer or waterway

### Methods and material for containment and cleaning up:

Wear protective eye wear, gloves and clothing  
Sweep or scoop up solid material while minimizing dust generation  
Dispose of contents / container in accordance with local regulations

### Reference to other sections:

Not determined or not applicable.

## SECTION 7: Handling and storage

### Precautions for safe handling:

Use only with adequate ventilation.  
Avoid breathing dust.  
Do not eat, drink, smoke or use personal products when handling chemical substances.

### Conditions for safe storage, including any incompatibilities:

Keep container tightly sealed.  
Keep container dry.  
Store in a cool, well-ventilated area.  
Store away from flammable and combustible materials (paper, wood).  
Store away from reducing agents (zinc, alkaline metals, formic acid).

## SECTION 8: Exposure controls/personal protection

Only those substances with limit values have been included below.

### Occupational Exposure limit values:

No occupational exposure limits noted for the ingredient(s).

### Biological limit values:

No biological exposure limits noted for the ingredient(s).

### Information on monitoring procedures:

Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls.  
Biological monitoring may also be appropriate for some substances.

### Appropriate engineering controls:

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use or handling.

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## Sodium Nitrate, ACS Grade

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor and mists below the applicable workplace exposure limits (Occupational Exposure Limits-OELs) indicated above.

### Personal protection equipment

#### Eye and face protection:

Safety goggles or glasses, or appropriate eye protection.

#### Skin and body protection:

Select glove material impermeable and resistant to the substance.

Wear appropriate clothing to prevent any possibility of skin contact.

#### Respiratory protection:

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

### General hygienic measures:

Avoid contact with skin, eyes and clothing.

Wash hands before breaks and at the end of work.

Wash contaminated clothing before reuse.

## SECTION 9: Physical and chemical properties

### Information on basic physical and chemical properties

Appearance	White Solid
Odor	Odorless
Odor threshold	Not determined
pH	5.5 - 8 5% aq. solution
Melting point/freezing point	306 °C / 582.8 °F
Initial boiling point/range	380 °C /716 °F
Flash point (closed cup)	Not determined
Evaporation rate	Not determined
Flammability (solid, gas)	Not determined
Upper flammability/explosive limit	Not determined
Lower flammability/explosive limit	Not determined
Vapor pressure	Not determined
Vapor density	Not determined
Density	Not determined
Relative density	2.2600 g/cm <sup>3</sup>
Solubilities	Soluble in water
Partition coefficient (n-octanol/water)	Not determined
Auto/Self-ignition temperature	Not determined
Decomposition temperature	380 °C
Dynamic viscosity	Not determined
Kinematic viscosity	Not determined
Explosive properties	Not determined
Oxidizing properties	Not determined

### Other information

## SECTION 10: Stability and reactivity

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## Sodium Nitrate, ACS Grade

### Reactivity:

Does not react under normal conditions of use and storage.

### Chemical stability:

Stable under normal conditions of use and storage.

### Possibility of hazardous reactions:

None under normal conditions of use and storage.

### Conditions to avoid:

None known.

### Incompatible materials:

None known.

### Hazardous decomposition products:

None known.

## SECTION 11: Toxicological information

### Acute toxicity

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

### Skin corrosion/irritation

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

### Serious eye damage/irritation

**Assessment:** Causes serious eye irritation

**Product data:** No data available.

**Substance data:**

Name	Result
Sodium Nitrate	Causes serious eye irritation

### Respiratory or skin sensitization

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

### Carcinogenicity

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

**International Agency for Research on Cancer (IARC):** None of the ingredients are listed.

**National Toxicology Program (NTP):** None of the ingredients are listed.

### Germ cell mutagenicity

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

### Reproductive toxicity

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

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## Sodium Nitrate, ACS Grade

### Specific target organ toxicity (single exposure)

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

### Specific target organ toxicity (repeated exposure)

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

### Aspiration toxicity

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

**Information on likely routes of exposure:** No data available.

**Symptoms related to the physical, chemical and toxicological characteristics:** No data available.

**Other information:** No data available.

## SECTION 12: Ecological information

### Acute (short-term) toxicity

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

### Chronic (long-term) toxicity

**Product data:** No data available.

**Substance data:** No data available.

### Persistence and degradability

**Product data:** No data available.

**Substance data:** No data available.

### Bioaccumulative potential

**Product data:** No data available.

**Substance data:** No data available.

### Mobility in soil

**Product data:** No data available.

**Substance data:** No data available.

**Other adverse effects:** No data available.

## SECTION 13: Disposal considerations

### Disposal methods:

It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities

## SECTION 14: Transport information

### United States Transportation of dangerous goods (49 CFR DOT)

UN numb	
UN prope	
UN transp	lass(es) 5.1



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**Sodium Nitrate, ACS Grade**

<b>Packing group</b>	III
<b>Environmental hazards</b>	None
<b>Special precautions for user</b>	None

**International Maritime Dangerous Goods (IMDG)**

<b>UN number</b>	UN 1498
<b>UN proper shipping name</b>	Sodium Nitrate
<b>UN transport hazard class(es)</b>	5.1 
<b>Packing group</b>	III
<b>Environmental hazards</b>	None
<b>Special precautions for user</b>	None

**International Air Transport Association Dangerous Goods Regulations (IATA-DGR)**

<b>UN number</b>	UN 1498
<b>UN proper shipping name</b>	Sodium Nitrate
<b>UN transport hazard class(es)</b>	5.1 
<b>Packing group</b>	III
<b>Environmental hazards</b>	None
<b>Special precautions for user</b>	None

**SECTION 15: Regulatory information**

**United States regulations**

**Inventory listing (TSCA):**

7631-99-4	Sodium Nitrate	Listed
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**Significant New Use Rule (TSCA Section 5):** Not determined.

**Export notification under TSCA Section 12(b):** Not determined.

**SARA Section 311/312 hazards:**

Acute	Chronic	Fire	Pressure	Reactive
Yes	No	No	No	Yes

**SARA Section 302 extremely hazardous substances:** Not determined.

**SARA Section 313 toxic chemicals:**

7631-99-4	Sodium Nitrate	Not Listed
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**CERCLA:** Not determined.

**RCRA:** Not determined.

**Section 112(r) of the Clean Air Act (CAA):** Not determined.

**Massachusetts Right to Know:**

7631-99-4	Sodium Nitrate	Listed
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**New Jersey Right to Know:**

7631-99-4	Sodium Nitrate	Listed
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**New York Right to Know:**

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## Sodium Nitrate, ACS Grade

7631-99-4	Sodium Nitrate	Listed
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### Pennsylvania Right to Know:

7631-99-4	Sodium Nitrate	Listed
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**California Proposition 65:** None of the ingredients are listed.

## SECTION 16: Other information

**Abbreviations and Acronyms:** None

### Disclaimer:

This product has been classified in accordance with OSHA HCS 2012 guidelines. The information provided in this SDS is correct, to the best of our knowledge, based on information available. The information given is designed only as a guidance for safe handling, use, storage, transportation and disposal and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials, unless specified in the text. The responsibility to provide a safe workplace remains with the user.

**NFPA:** 2-0-3

**HMIS:** 2-0-3

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**End of Safety Data Sheet**